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Toward a Grammar of Aspect: The Case of the English Perfect Construction

by

Laura Adrienne Michaelis

B.A. (University of California at Berkeley) 1986
M.A. (University of California at Berkeley) 1988

A dissertation submitted in partial satisfaction of the

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Committee in charge:

Professor Charles J. Fillmore, Chair
Professor Eve Sweetser
Professor Suzanne Fleischman

1993

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The dissertation of Laura Adrienne Michaelis is approved:

Charles J. Fillmore 8 July 1993
Chair Date

Eve E. Sweetser 1 July 1993
Date

Suzanne Kemmer 7 July 1993
Date

University of California at Berkeley

1993

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Abstract

Toward a Grammar of Aspect:

The Case of the English Perfect Construction

by

Laura Adrienne Michaelis

Doctor of Philosophy in Linguistics

University of California at Berkeley

Charles J. Fillmore, Chair

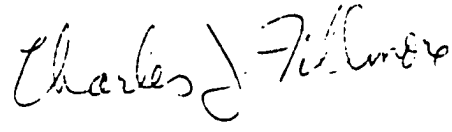
This study addresses two interrelated questions: what is the nature of aspectual meaning, and what are the grammatical realizations of aspectual meaning in English? These questions are addressed in part through an examination of the English perfect construction (e.g., *The Eagle has landed*). In chapter one, I outline a tripartite model of the English aspectual system, consisting of grammatical aspect, situation aspect and phasal aspect. The perfect is depicted as an exponent of phasal aspect. Phasal aspect, according to Coseriu (1976), indicates a relationship between a reference time and "the degree of development of the verbal process under consideration". Exponents of phasal aspect encode a situation type distinct from the Aktionsart of the VP-complement denotatum. I demonstrate that the perfect constuction denotes a stative situation: a state of 'aftermath' following the event expressed by the VP complement. Chapter one establishes a formal semantic model for representing phasal aspect.

Chapter two uses the Construction Grammar framework to describe the morphosyntactic constructions which encode phasal aspect in English. These constructions are seen as complexes of highly specific semantic, discourse-pragmatic and grammatical properties. The repertoire of aspectual constructions is a *structured inventory* of form-meaning pairings, in which formal and semantic correspondences between constructions are represented by inheritance links. The various perfect constructions, and their semantic

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interrelations, are examined in chapters three and four.

The grammar is seen as a system of functional oppositions. Accordingly, certain construction-particular constraints on use and interpretation are seen as *ecologically based* constraints. I argue that while many of these constraints are calculable via Gricean principles, some are instead attributable to a discourse-pragmatic division of labor among two or more synonymous constructions. One such constraint prevents the resultative present-perfect from expressing a pragmatically presupposed event proposition. In chapter five, I argue that this constraint arises from a functional contrast between the resultative present-perfect and preterite. Chapter five further shows that the existential and resultative readings of the present perfect have distinct grammatical and discourse-pragmatic reflexes. The present perfect is regarded as a polysemous construction: a single morphosyntactic form having several related meanings.



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For my parents,

Leon and Ramona Michaelis

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Introduction

This study addresses two interrelated questions: what is the nature of aspectual meaning, and what are the grammatical realizations of aspectual meaning in English? In exploring the latter question, we will focus upon the English perfect construction, a verbal periphrasis consisting of the tensed auxiliary *have*, plus a past-participial complement (e.g., *The Eagle has landed*). The first line of inquiry will be pursued in chapter one. There, we will develop a universal definition of aspect, focusing upon the manner in which aspectual categories are manifested cross linguistically.

While aspect in general can be said to concern the "pattern of distribution of a situation over time" (Talmy 1985), I will argue that aspectual contrasts hinge upon a basic conceptual division between two situation classes: events and states. Events (e.g., sewing on a button) are situations which (a) have salient boundaries (i.e., points of inception and/or termination) and (b) involve change over time. States (e.g., being expensive) are situations which do not involve change over time, and which do not have salient endpoints.

Many recent investigators of aspectual meaning presume that the categories *event* and *state* belong to an ontology of idealized situation types, i.e., Aktionsart classification or situation aspect, while the grammatical categories *perfective* and *imperfective* (as found, e.g., in Latin) do not directly encode the event-state distinction, but rather a distinction in narrator perspective: while perfective aspect signals the narrator's willingness to attend to the endpoints of the denoted situation, imperfective aspect signals that those endpoints are not salient. An example of this approach is found in Smith 1986, 1991.

By examining the manner in which the narrator's view of a situation is encoded—as well as the temporal representation that the recipient of a narrative is induced to construct—investigators like Smith highlight the fact that (a) aspectual categorization is flexible, and (b) this flexibility is used by the narrator as a method of signaling the manner in which the presented situation relates to other situations depicted within a text (e.g., whether it

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temporally overlaps or follows the previously mentioned state of affairs). Under this view, aspectual categorization is a product of the manner in which people, as producers and processors of texts, understand scenes, rather than a reflection of the properties which situations have 'in the world'.

In this study, I will adopt this construal-based model of aspect, while both revising and augmenting it. First, I will argue that grammatical aspect does in fact encode the event-state distinction. The linguistic depiction of a situation as an event or state (e.g., the use of perfective or imperfective morphology) entails the expression of the speaker's perspective upon that situation. An event predication evokes an 'external' viewpoint, in which the speaker focuses on a time period which subsumes the boundaries of the denoted situation. By contrast, a state predication evokes an 'internal' viewpoint, whereby boundaries are not countenanced. While there is a conventional aspectual categorization of a given situation as event or state, a speaker may choose to provide an 'operative definition' of that situation which is at odds with the canonical definition. In this respect, aspectual grammar is analogous to the grammatical realization of the count-mass distinction. While speakers presumably know that a certain entity (say, soup) ordinarily qualifies as a mass, they may choose to present a given instantiation of that mass as a bounded rather than unbounded quantity (as in, e.g., the expression *a delicious soup*). In other words, the linguistic presentation of a situation, like nominal reference, entails an ontological commitment on the part of the speaker. When, for example, speakers utter sentences like *Bill's face was green for a moment*, they signal that, for the present purposes, the situation denoted represents an event, i.e., a bounded situation.

Second, I will recognize *covert* aspectual categories in languages like English, which do not provide a morphological means of encoding the distinction between event predications and state predications. I will argue for the existence of covert aspectual categories by demonstrating that the two aspectual classes *event* and *state*, manifested morphologically in languages like French, have grammatical and inferential reflexes in

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English. For example, the so-called subinterval property, defined by Bennett and Partee (1973) as an entailment feature of states, will be viewed here as a mode of inference available to the interpreter of a narrative.

Third, I will argue that, in addition to grammatical aspect and Aktionsart, we must recognize a third aspectual system: that of phasal aspect. Examples of phasal aspect are the inceptive, terminative, progressive and perfect constructions in English. According to Coseriu (1976), phasal aspect indicates a relationship between a particular reference time and "the degree of development of the verbal process under consideration". Phasal aspect overlaps functionally with grammatical aspect, since it too encodes speaker perspective. For example, the English progressive is often equated with French or Latin imperfective marking, because it signals that the speaker is viewing an event 'from the inside', at a point following its inception and prior to its termination. However, while grammatical aspect directly encodes the event-state distinction, phasal aspect *presupposes* that distinction—its sole function is to effect perspectival shifts involving the conceptual categories *event* and *state*. As a result, while grammatical aspect may (and typically does) encode the default aspectual characterization of a given situation as event or state, phasal aspect necessarily encodes an aspectual characterization at odds with the Aktionsart type of the VP-complement denotatum.

For example, the progressive construction (*The dog was digging a hole*) provides a stative depiction of that event denoted by the participial complement (cf. Vlach 1981, Langacker 1987). A number of 'tests', described by Vlach and others, substaniate the view that progressive sentences are state predications. Phasal aspects are inherently relational categories: constructions like the progressive and inceptive present a temporally defined subcomponent of a 'background' situation. In particular, I will argue that the perfect constuction, like the progressive, denotes a stative situation. This situation is a state of aftermath following the culmination of that event encoded by the participial complement. Part of our task in chapter one will be to establish a formal framework for representing the

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semantics of phasal aspect. The framework presented here is based on the work of Parsons (1990) and Herweg (1991a, 1991b).

In chapter two, we will explore a grammatical model which we will use to describe those morphosyntactic constructs, labeled *verb-phrase constructions*, which encode phasal aspect in English. The grammatical analysis offered here is at odds with the program of the so-called Principles and Parameters approach—as outlined by Chomsky (1992)—in which language-specific constructions represent 'taxonomic artifacts' without relevance for the description of linguistic competence. I will presume that acquisition of the grammar of aspect entails mastery of several highly specific *aspectual constructions*. These constructions (e.g., the progressive construction) are conventional form-meaning pairings, each of which is a constellation of idiosyncratic semantic, discourse-pragmatic and grammatical constraints.

Like Hornstein (1990), and unlike some proponents of cognitive grammar (e.g., Langacker 1987, 1991 and Talmy 1985), I will maintain that the expression of aspectual meaning is mediated by a semi-autonomous grammatical component. Exponents of aspectual meaning are characterized by interpretive constraints, grammatical restrictions and use conditions which are not predictable from the broad-based semantic model outlined above, and which therefore must be mastered independently by the learner. This claim is reminiscent of Hornstein's assertion that "within the domain of tense, just as in other parts of natural language, semantic interpretation significantly underdetermines syntactic structure". However, my view of the English aspectual system is very different from Hornstein's conception of the grammar of tense and aspect. In Hornstein's account, this grammar is a highly general and universal (indeed, innate) system of constraints. In the present account, this grammar is both language particular and highly specific: it is an inventory of conventional form-meaning pairings characterized by parochial constraints upon grammar, interpretation, and use.

The theory of grammatical constructions which I will presume is the Construction

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Grammar framework, outlined by Fillmore, Kay and O'Connor (1988) and Fillmore and Kay (1991), and elaborated in the work of Goldberg (1992b) and Lambrecht (1991, forthcoming). In particular, I will adopt Goldberg's view that the repertoire of constructions is not simply a list of form-meaning pairings, but a *structured inventory* of such pairings, in which formal and semantic correspondences are represented by means of inheritance links. The presence of inheritance links ensures that while the meanings of some aspectual constructions are noncompositional, these meanings are *motivated* to the extent that a given construction inherits its interpretive properties from another construction sanctioned by the grammar. The individual constructions in the perfect network (e.g., the past perfect) and their semantic interrelations, will be examined in chapter four.

In chapter three, I will argue that while certain semantic, discourse-pragmatic and grammatical features of the present-perfect construction preclude a treatment in which this construction is simply the present-tense analogue of the past perfect, we can capture the obvious formal and semantic relationships between past and present perfects by positing a general perfect construction, to which past and present perfects are related by means of *instance links*. In this chapter, I will also argue that since motivation can generally be identified with abductive or after-the-fact inference, motivations constructed by speakers need not be identified with form-meaning correspondences (i.e., inheritance relations) recognized by speakers; speakers may construct other sorts of semantic rationales in order to 'explain' observed idiosyncratic constraints.

In addition, I will argue, speakers may also motivate constraints upon the use or interpretation of a given aspectual construction by appealing to the discourse-pragmatic division of labor within the tense-aspect system. Accordingly, I will invoke a conception of structure in grammar that is perhaps more closely associated with Praguean structural linguistics than with modern generative linguistics: the grammar as a system of functional oppositions. On this view, there are, in addition to idiosyncratic (parochial) constraints upon constructions, constraints upon use and interpretation which can be characterized as

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ecologically based constraints. A number of the ecologically based constraints to be described here are *calculable* according to Gricean interpretive mechanisms: these are meaning constraints that arise from the presence of a more informative or less marked alternate form which the speaker failed to utilize. These constraints resemble the interpretive phenomenon of partial lexical blocking, described by Kiparsky (1982) and Horn (1984). Some ecologically based constraints, particularly use conditions, are not calculable: their existence can instead be ascribed to the fact that two or more synonymous competitor forms participate in a privative discourse-pragmatic opposition.

One such constraint, to be investigated in chapter five, bars the use of the resultative present-perfect when the event proposition coded by the VP complement is pragmatically presupposed. Content questions like **Where have they captured the suspect?* are peculiar, since a presupposed proposition (the suspect was captured) is expressed by the present perfect. I will argue that this constraint arises from a functional opposition involving the resultative present-perfect and preterite. The preterite, as Partee (1984) and Hinrichs (1986) maintain, is anaphoric, in that it 'refers back' to a previously mentioned or contextually available time period. In terms of the model to be used here, preterite-form utterances evoke a past interval that is both *identifiable* and *active* in the minds of the interlocutors. By contrast, the resultative present-perfect, exemplified by sentences like *I've met someone else*, expresses deictic rather than anaphoric temporal reference: the event denoted cannot be anchored to a contextually accessible time period.

This study differs from previous pragmatically based accounts of the present-perfect/preterite contrast (e.g., Dinsmore 1981, Fenn 1987), in that it describes this contrast with respect to a particular reading of the present perfect, the resultative reading. I presume here, in accordance with McCawley (1971), that the present perfect is ambiguous with respect to resultative, existential and continuative readings. Chapter five will present evidence in favor of this analysis: I will demonstrate that the existential and resultative readings of the present perfect have distinct grammatical, semantic and discourse-pragmatic

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reflexes. Furthermore, I will provide evidence against those analyses which presume that the present perfect is vague with respect to the relevant readings.

The present perfect, I will argue, is an instance of constructional polysemy: it is a single morphosyntactic form which has several related meanings. These meanings cannot be assigned distinct underlying syntactic structures. On this view, grammatical structures do not necessarily have a combinatorial semantics, such that the meaning of the whole can be calculated from the meanings of the parts. Grammatical structures may mean what they mean in the same way that words do—via convention rather than composition. Therefore, grammatical constructions, like words, may be polysemous. The existence of constructional polysemy provides evidence for the hypothesis that complex linguistic structures can qualify as minimal symbolic units. The grammar of aspect, as I see it, is an inventory of such units. In sum, therefore, this study is an attempt to describe the mental representation of a particular facet of linguistic knowledge.

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Chapter One: The Aspectual System of English

1.1. The Adjunction of Past and Present

The narration of history, as it is traditionally conceived, involves reference to a series of events situated in the distant past. There is, however, a broader conception of historical narrative, invoked in a number of recent accounts of temporal reference, which also subsumes assertions about one or more eventualities located in the recent past. This period is an interval 'just before' the time of the discourse. A historical account relativized to this period may concern, for example, the sequence of events culminating in the speaker's arrival at the discourse location. Formally, historical narratives comprise a "succession of sentences...understood as reporting events whose relative temporal order is isomorphic to the order in which the sentences reporting them follow each other in the text" (Kamp and Rohrer 1983:252). Under this conception, *a history* is a representation of a series of events arrayed along a linear pathway of temporal intervals leading to the present moment (cf., e.g., Dowty 1977). This representation is constructed by the interpreter of the text as he or she computes the manner in which the order of assertions within the historical narrative reflects the real-time structure of the actual (or imagined) world. This representation need not involve consecutive events; a given point on the linear pathway of past times, once traversed, may be revisited by the speaker. A speaker may report: *Marge had a little accident yesterday. She broke her toe. She bruised her knee.* In this case, the interpreter will understand that the two subsequently mentioned events are temporally included within the time of the first-mentioned event—with no determinate order between them. The speaker exploits the hearer's ability to 'reactivate' the past interval associated with the initial past-tense predication. The time of yesterday's accident is the time at which history temporally 'ends'.

Whether the historical narrative pertains to the distant or the recent past, any event portrayed as having transpired prior to the present moment, whatever its ordering with

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respect to other past events, belongs to history. History, so conceived, entails the existence of a more or less rigid partition between the past, the temporal path along which the narrator locates events, and the present, which constitutes the absolute terminus of that path.

This study will suggest that the grammar of English provides a means by which speakers can effectively dissolve this partition. The aspectual system of English contains a verbal construction, traditionally labeled the present perfect, by means of which a speaker may locate an event within a history, while simultaneously relating that event to a state of affairs which obtains at the present time. Thus, for example, the sentence *My car has been stolen* relates a past event of car theft to a present state of affairs (absence of the car) characterizable as a consequence of the event denoted by the past participle. Such assertions may feature a form of temporal reference which evokes some share of the future as well: a present-perfect form sentence can be used to suggest a future course of action designed to remedy the denoted state of affairs. (In our example, this action may be that of hailing the police, etc.)

The communicative function commonly associated with the present perfect is that of signalling the 'present relevance' of a past event. As this study will demonstrate, however, 'present relevance' subsumes three distinct implications regarding the present state of affairs. One implication, attached to the so-called resultative perfect, concerns the existence of a resultant state at present. This perfect type is exemplified by the illustrative sentence given in the preceding paragraph. Another implication, associated with the existential or experiential perfect, has a modal character: the event denoted is such that it could recur at present. As McCawley (1971) notes, for example, the question *Have you seen the Monet exhibit?* presupposes that the exhibit is still open at speech time, and that the addressee is now capable of visiting it (e.g., he is ambulatory). A final implication is that linked to the continuative perfect: the present represents the upper boundary (or rightward terminus) of a state phase which began at some point in the past. Thus, for example, the sentence *I have*

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been bored all day denotes a state of affairs which began at daybreak or so and continues up to (and perhaps beyond) the time of speaking.

This study will suggest that the present perfect is ambiguous with respect to these three interpretations, and that the resultative reading in particular has grammatical and discourse-pragmatic constraints which are underdetermined by the semantic structure which this construction instantiates. Such evidence will lead us to regard the present perfect as a complex of distinct (although related) aspectual constructions, each of which provides a unique means of bridging the gap between past and present. The present study represents a refinement and elaboration of an analysis offered by Jesperson (1931:47):

> The perfect...is itself a kind of present tense, and serves to connect the present time with the past. This is done in two ways: first, the perfect is a retrospective present, which looks upon the present state as a result of what has happened before in the past; and second the perfect is an inclusive present, which speaks of a state that is continued from the past into the present time.

The Januslike nature of the present perfect is reflected in its formal composition: it is a verbal periphrasis consisting of a present-tense auxiliary (*have*) followed by a past-participial complement. The situation denoted by the participle represents a perfective or bounded situation. The auxiliary head represents a present-tense state predication. In accordance with Herweg (1991a, 1991b), I will argue that the perfect construction denotes a state of 'aftermath' following the culmination of an event. In so doing, the perfect enables the speaker to assert the occurrence of an event within an interval *t-1* by asserting the presence of a contingent state at a time *t*.

This argument rests upon a framework which presumes the existence of two primary situation classes, state and event, and a system of operators (here labeled *phasal aspects*) which serves to map event predications onto state predications and *vice versa*. Such

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operations provide for alternate conceptual categorizations of a given situation. In order to understand the role of the perfect construction within this system, we must first investigate the properties of the situation classes—state and event—that it serves to mediate. Toward that end, section 1.2 will be devoted to an examination of the English aspectual system, with particular reference to the universal conceptual categories which the English system instantiates. This examination will have a number of ancillary aims, one of which is simply to establish a clear distinction between two aspectual phenomena that are frequently confused, owing to the fact that both involve the notion of completed action: perfect and perfective aspect. Another aim is that of providing a pretheoretical basis for the discussion in section 1.3—an overview of two predominant formal theories of tense and aspect, parts of which are to be adopted here.

Two further goals are pursued in section 1.4. First, we will examine a classification of English aspectual phenomena. This schema consists of three cross-cutting categories: viewpoint aspect, situation aspect, and phasal aspect. Second, we will establish the place of the perfect within this system. I will argue that the perfect constuction belongs to the set of morphosyntactic constructions which represent exponents of phasal aspect. The three subsystems held to comprise the English aspectual system will be described in both cognitive and discourse-pragmatic terms. In accordance with most current analyses of aspect, I will argue that the aspectual categories in question, while marked on the verbal syntagm, represent classes of situations rather than of actions, and that, insofar as this is the case, one must speak of the aspectual class encoded by a sentence rather than by a verb or verb phrase. I will argue that the conceptual basis of each of these systems is the division between two situation classes, event and state.

These classes are distinct in the following respects: events (e.g., falling asleep or peeling an apple) are situations which (a) have salient boundaries (i.e., points of inception and/or termination) and (b) involve change over time; states (like being green or looking happy) are situations which do not involve change over time, and which do not have salient

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endpoints. I will maintain that the event-state distinction, as outlined here, should form the basis of all explanation in aspectology.

In this study, I will adopt a revised version of Smith's (1986, 1991) speaker-based model of grammatical aspect, as well as her depiction of Aktionsart (or situation aspect) as an ontology of idealized situation types. In the model invoked here, the linguistic depiction of a situation as an event or state (e.g., the use of perfective or imperfective morphology) entails the expression of the speaker's perspective upon that situation. An event predication evokes an 'external' viewpoint, in which the speaker focuses on a time period which subsumes the boundaries of the denoted situation. By contrast, a state predication evokes an 'internal' viewpoint, whereby boundaries are not countenanced. The description of viewpoint distinctions, as we will note, requires hearer-based explanation as well: I will argue in section 1.2.2.4 that imperfective and perfective predications license distinct temporally based inferences. Within truth-functional models of aspectual semantics, these inferences are typically described as entailment features, like the so-called subinterval property (Bennett and Partee 1973). The basic theoretical commitment of this study requires us to view aspectual categorization as a product of the manner in which people, as producers and processors of texts, construe scenes, rather than as a reflection of the properties which situations have 'in the world'. Therefore, we will seek to define properties like the subinterval property in terms of the interpretive models which hearers bring to bear in figuring out the interrelations among situations presented in a text, e.g., what situations, if any, temporally overlap with others.

The aspectual model to be invoked here is functionally based, in that it highlights the communicative functions of aspectual constructions. In the speaker-based model, the speaker *qua* narrator selects an aspectual construal of a given situation that is consonant with the viewpoint which he chooses to take upon that situation at a given point within a temporal discourse. The narrator imposes an 'operative definition' upon any situation which he or she introduces into a narrative—a definition which may or may not accord with

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the Aktionsart-class specification of that situation. Thus, for example, while the speaker of English recognizes that 'Harry's being elated' represents a state, the speaker as narrator may elect to present that state as an event. Note, for example, the following short text: *Bev told Harry the news. He was elated.* Here, the state as depicted represents an occurrence, insofar as it entails a change of state. The reference time of the past-tense state predication includes the time of inception of the denoted situation.

In sum, we will assume that aspectual categorization is flexible, and that this flexibility is exploited by the narrator as a method of encoding the manner in which the presented situation relates to other situations depicted within a text (e.g., whether it temporally overlaps or follows the previously mentioned state of affairs). We will adopt a representation of the interpretation of temporal discourse which is essentially that of Partee (1984). In this framework, based on Discourse Representation Theory, the notion of *reference time*, and the continual updating of the reference time through the course of the narrative, plays an essential role.

The model outlined here is cognitively based, in that it presumes that speakers categorize situations with respect to certain universally recognized situation types, i.e., Aktionsart classes. The two major situation types are those described above: the classes *event* and *state*. As we have seen, event and state predications evoke distinct speaker perspectives. It is also evident that, in the realm of conceptual structure, the situation types *per se* are ontologically distinct. While an event qualifies as an *individual*, a state does not. Individuality, as we will note in section 1.2.2.1, is contingent upon (a) the presence of boundaries and (b) indivisibility. An indivisible entity is one whose subparts do not count as instances of the whole (e.g., the handle of a cup is not a cup). Since an event is wholly contained within some relevant period—and is fully instantiated at no points within that period—it is both bounded in time and indivisible. A state obtains at all points within the relevant interval, and possibly at times anterior and subsquent to that interval; it is therefore neither bounded nor indivisible. One cannot say that there is a single state token with a

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given time period, since there may be an infinite number of such tokens: all subintervals of the overall time of instantiation are times at which the state is instantiated. As we will note, these two situation types are analogous to the conceptual categories *mass* versus *count*, which concern the disposition of an entity though space (cf. Mourelatos 1981). While spatially bounded entities (like cats or cups) qualify as individuals, unbounded entities (like water or mud) do not.

The analogy between events predications and count nouns, on the one hand, and state predications and mass nouns, on the other, will be further extended in section 1.4. There, I will suggest that the nonstandard linguistic presentation of a situation (e.g., an eventive presentation of an inherently stative situation like Harry's being elated) is akin to that type of linguistically signaled 'override' whereby, e.g., an object which represents a mass in conventional conceptual structure (e.g., a liquid like wine) is grammatically presented as a count entity (e.g., as in the expression *several fine wines*).

Where does the perfect construction fit into the aspectual model outlined above? Analysts have long expressed uncertainty as to the appropriate categorization of the perfect within the tense-aspect system of English. Aspectual marking in general evokes the internal temporal constitution of a situation (Comrie 1976). By contrast, the perfect "tells us nothing directly about the situation in itself, but rather relates some state to a preceding situation" (Comrie 1976:52). While this communicative function appears incommensurate with that of other aspectual markers, it appears to ally the perfect with exponents of tense. The perfect expresses anteriority of an event with respect to a reference point—a notion intrinsic to the definition of past tense. This fact has induced a number of analysts—including Hornstein (1990), McCoard (1978) and Mourelatos (1981)—to regard the perfect as a relative tense. The debate over whether the perfect is best regarded as tense or aspect has tended to overlook the existence of a group of aspectual constructions with which the perfect can readily be identified. In English, these constructions are auxiliary-headed periphrases like the progressive and inceptive constructions. Within certain semantic

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analyses, these constructions represent operators which evoke relations between paired intervals. Overlap, precedence and proper inclusion are among these relations (Dinsmore 1991). One such interval is the time at which a situation is fully instantiated, e.g., the time during which the situation denoted by the tenseless proposition *Harry repair- the fence* occurred. The other such interval is the time within the course of development of that situation which the speaker chooses to focus, e.g., the time characterized by the presence of the 'in-progress' state denoted by the tenseless proposition *Harry be- repairing the fence*. The latter interval, which is properly included in the former, is the so-called reference time of the progressive predication.

What is crucial for the present analysis is not only that a predication like *Harry was repairing the fence* evokes a reference time other than the overall time of instantiation of the past-participial VP denotatum (*Harry repair- the fence*), but also that it denotes a situation whose aspectual class differs from that of the content-verb denotatum. Following Coseriu (1976), we will use the term *phasal aspect* to refer to the mode of linguistic presentation associated with aspectual constructions belonging to this system. Among these, as noted, constructions are the inceptive and progressive aspects. The inceptive aspectual construction is exemplified by sentences like *Harry began to look sad.* This sentence denotes an event—the beginning of a state—whose time of occurrence is equated with the lower boundary of the period of time during which Harry looked sad. The construction asserts the past existence of a state—that of Harry's looking sad—by presenting an event whose culmination is identified with the beginning of that state. Our intuition that constructions like the inceptive provide for an alternate construal of the 'background' situation (here, the state denoted by the infinitival complement) relies upon the insight that we, as interpreters, construe that situation denoted by the head verb of a phasal construct as the instantiation of a basic situation type, just as we regard lexically headed predications (like *Harry poked the cat*) as exemplars of such canonical types. This insight in turn devolves upon the existence of a conceptual division which we have termed the event-state

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distinction. The grammatical and inferential ramifications of this distinction will be the focus of the next section.

1.2. The Aspectual Construct as a Grammatical and Conceptual Category[1]

The study of tense and aspect focuses upon the repertoire of linguistic devices used by the speakers of a given language to specify the temporal parameters of a situation. One such parameter is the location of that situation with respect to speech time: tense marking indicates whether the situation is anterior to, cotemporaneous with, or subsequent to the time at which it is denoted. Another parameter is the disposition of the situation thrcugh time: aspectual marking locates the situation denoted within a reference interval, which can but need not be indentified with speech time. Aspectual marking indicates whether the situation obtains throughout the reference interval, culminates within that time, or begins at that time.

As is evident from the preceding discussion, the definitions of tense and aspect rely upon a spatial analogy in which 'temporal location' is described in terms of location in space. If we embroider this analogy somewhat, we can further clarify the distinction between tense and aspect. Let us say that the designated situation is an object (say, a spider), and the reference interval is a region in space (say, a dish). Tense specification is akin to locating the dish which hosts the spider at a point some distance from the speaker. Here, the location of the speaker is analogous to the time of the utterance event. Aspectual specification is akin to providing information of the following type: is the spider on the rim

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[1] The use of the term *construct* here is distinct from that found in Construction Grammar (cf. Fillmore and Kay 1991). Fillmore and Kay use the term to denote any linguistic token that is sanctioned by a construction in the grammar. I use the term much more generally—to denote either a semantic category *simpliciter* or a linguistic manifestation of that category. In this study, I will often have recourse to the term *aspectual construct*—primarily because the traditional term *aspectual marker* is typically taken to refer to form alone, rather than a content-form correspondence. While the terms *aspectual construct* and *aspectual construction* will often be used interchangeably here, the latter term is more specific: it denotes a pairing of aspectual meaning and a morphological or morphosyntactic means of expressing that meaning.

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of the dish, is it in the middle of the dish, or does it cover the entire surface of the dish? Thus, for example, we commonly speak of an episode (i.e., an event) as a situation whose boundaries are contained within the reference interval. By contrast, a state wholly occupies and perhaps overflows the interval, since it has no necessary point of culmination within the period evoked. A situation which partially overlaps the reference interval, is one presented by means of a terminative predication (e.g., *Sam finished drying the dishes*). Here, the event denoted by the participial complement is outside the scope of the reference interval; only some portion of that event (its time of termination) is within the set of times compassed by the reference interval.

While the general model of aspect associated with the spatial analogy described above is appealingly straightforward, we find that it is somewhat limited when we look closely at aspectual meaning. Aspectual meaning involves not only the temporal contour of a situation, but a number of other notions that are not strictly temporal. Analyses of aspect have made reference to: evidentiality (Comrie 1976, Fleischman 1989, Slobin and Aksu 1982), resultativity (Parsons 1990), modality (Dowty 1977, 1979), individuation (Herweg 1991a), granularity of perspective (Talmy 1988), transitivity (Hopper and Thompson 1980, Croft 1990), distribution of focus over sentential constituents (Hopper 1979) and so on. Further complexities emerge when we consider the use conditions associated with particular aspects—constraints which often 'make sense' only when we look at the system of functional contrasts in which a given aspectual construct participates. Some of these constraints require reference to conversational implicatures arising from the existence of an unused alternative form. (Cf. Lambrecht 1991 on the means by which a system of formal oppositions determines the interpretation of a given prosodic structure.) A detailed account of aspectual meaning will encompass discourse-pragmatic factors as well as certain nontemporal semantic properties. The case study offered here is intended to serve as an example of such an account.

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Of course, we cannot ignore the temporal components of aspectual meaning, nor can we treat aspectual meaning as a semantic system divorced from the system of temporal expressions in general. While tense and aspect are typically treated as distinct objects of inquiry, it is generally acknowledged that the two systems are interrelated. One such interrelation is the following. While events like dying or cooking a roast are fully instantiated only with the passage of time, the present is conceived of as a momentaneous interval, i.e., a point in time. Since this point cannot accommodate the full temporal profile of an event, one cannot relativize an event predication to the present. Thus, for example, in English, perfective (or eventive) aspect is generally incompatible with simple-present inflection. Sentences like *Harry dies* are anomalous. In this study, I will argue that tense and aspect may interact in a manner that is not countenanced by compositional models of perfect meaning like that proposed by Klein (1992). In particular, I will suggest that the English present perfect features semantic, grammatical, and discourse-pragmatic constraints that cannot be said to arise from the integration of the aspectual specification of the past-participial element combined with the (present) tense specification of the auxiliary head (cf. also Waugh 1983).

The aspectual categorization of a situation is not necessarily coded grammatically. Therefore, one cannot always regard aspectual meaning as the semantic value of 'aspectual marking'. [2] To illustrate this problem, let us examine the manner in which two typologically disparate Indo-European languages, Latin and English, manifest a fundamental aspectual distinction: the imperfective/perfective contrast. As a preamble to this illustration, we will first examine the conceptual underpinnings of the contrast.

1.2.1. The Semantic Basis of the Event-State Distinction

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[2] The conceptual content expressed by tense marking also need not be so expressed. In Vietnamese, for example, coverbs expressing tense are optionally present. In such languages, tense relations are typically inferred via features of the discourse context.

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According to Langacker (1987:258), the distinction at issue has a "primal character", because it is linked to a basic cognitive capacity: the ability to perceive change (or the lack of change) over time. In general, as Langacker notes (op. cit.:261), "the covariant properties of change and bounding can be regarded as two sides of the same coin (as can their opposites, namely constancy and open-endedness". Imperfectively described situations (also known as states) obtain thoughout the interval at issue, possibly overflowing the boundaries of that interval. Perfectively described situations (i.e., events) are bounded insofar as they terminate within the relevant interval. To report the occurrence of an event is to report its cessation. An event predication denotes a change. Change implies the presence of distinct phases of the situation in question. The final phase of an event may be equated with a goal state, upshot, or outcome.

Events having goal states, like reaching the summit or reading a book, are typically termed telic situations (cf. Dahl 1981). Telicity and the presence of an episodic construal have often been equated. As Langacker notes, however, "some processes are internally homogeneous but construed as occurring in limited episodes (e.g., *sleep*, *wear a sweater*, *walk*)" (ibid). Such processes have been termed *activity verbs* (Vendler 1967, Dowty 1979, 1986). Activity verbs partake of semantic properties associated with imperfectivity and properties linked to perfectivity. Like states, activities lack any intrinsic endpoint. Activities also share with states the properties of *cumulativity* and *distributivity*. The cumulativity property involves the possibility of conjoining two phases of a given situation: such conjunction will yield an identical situation. For example, two temporally contiguous instances of walking activity, taken together, count as an instance of walking. Of course, as C. Fillmore notes (p.c.), it is difficult to think of situations as being 'conjoined' without invoking an explicitly linguistic operation. A more accurate description of the cumulativity property, which acknowledges the centrality of speaker inference, is the following: if the speaker is aware of two temporally contiguous instances of a given situation, each of which

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licenses the same aspectual representation, then he or she will also know that these phases, considered together, permit that aspectual presentation.

The distributivity property, termed *internal homogeneity* by Langacker, can be described as follows: every temporal subpart or 'component moment' of the state is an instance of that same state. In the case of activities, however, one typically finds only 'weak distributivity' (cf. Herweg 1991b): one cannot reasonably infer, for example, that running is taking place at *all* subintervals of the overall interval in which that activity goes on. Running can be said to entail successive leaping motions, involving an alternating 'trail leg'. One leap does not count as an instance of running.

Like events, activities are dynamic. The property of dynamism arises from one of two factors: (a) the presence of change over time or (b) salience of terminal points. Some activities can be regarded as unfolding over time (e.g., a 'cycle' of running involves successive hopping motions). Such activities therefore share with events the property of having distinct subphases. We will call these *heterogeneous activities*. Other activities, like wearing a sweater, are internally homogeneous, but involve stasis of limited duration. Such limitations are typically culturally imposed. For example, a given article of clothing is worn during waking hours only. As Langacker observes (1987:262), "the onset and termination of an otherwise homogeneous process can be interpreted as representing a type of change". The type of change involved here is not that characterizable as a course of evolution through time (as in the case of a heterogeneous activity like breathing, which involves, minimally, successive events of inhalation and exhalation), but as a pair of momentaneous transitions from one state (e.g., that in which situation A obtains) to another (that in which situation A does not obtain). As we will note below, the dynamism which characterizes both activities and 'events proper' affects the feasibility of present-tense reporting upon such situations.

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States differs from events in lacking distinct subphases. States have the properties of (strict) cumulativity and distributivity (Herweg 1991a, 1991b). The distibutivity property arises from the atemporal nature of states. As Bach argues (1986:71):

> The atemporality of states...can be brought out in the following *Gedankenexperiment*: Imagine a possible history (world) with only one time (which in a sense amounts to having no time); it is possible to think of various states that might obtain in such a world, but impossible to imagine events and processes that occur or go on in such a world.

Thus, while a state can be said to obtain at a single instant, an event 'takes time' in the sense outlined above. The atemporal quality of states finds an analog in the spatial dimension: as noted by Bach, among others, it is typically impossible to specify the location within which a given state obtained. While it may make sense to specify the general location of a state that happens to be subject to the influence of environment (*Mary was happy in Cleveland*), it is difficult to imagine circumstances under which a person could plant a landmark at or draw boundaries around the precise location of that state. Just as states cannot be said to 'take time', so they cannot be said to occupy any expanse of space. Events, by contrast, may take up both time and space—a situation that is readily represented by means of the two-dimensional system of spatio-temporal coordinates described by Cooper (1986). In Cooper's system, events, like one dog's chasing another across a lawn, are resolved into a series of successive states. Each state represents a point in space and time, where space-time location is computed as degree of displacement from some spatial and temporal origin (while 'displacement' along the time line is unidirectional, displacement along the spatial axis is multidirectional). A collection of specific space-time locations constitutes the spatio-temporal 'envelope' within which the event took place.

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While the properties of cumulativity and distributivity are commonly treated as 'physical attributes' of states, this mode of description obscures the fact that aspectual categorization is a product of speaker construal. As Herweg notes (1991b:977):

> ...the same factual situation is often open to alternative conceptual categorizations...So the fundamental aspects perfective and imperfective are linguistic devices that express the special perspective on a situation taken by the speaker.

The properties of cumulativity and distributivity are best regarded as modes of inference available to the interpreter of a text. Thus, for example, the property of cumulativity enables the interpeter whose encounters a stative assertion like *Betty was ill yesterday* to imagine a larger interval, subsuming the time period under discussion, which is characterized by the presence of that same state. The claim that aspectual constructs license certain modes of inference coheres with a recent trend in aspectology (manifested in both truth-conditional and functionally based theories) toward examining aspect within the framework of text construction and interpretation (Dowty 1986, Hopper 1979, Kamp and Rohrer 1983, Partee 1984, Polanyi 1985). Theories of this type examine the manner in which tense and aspect are used to encode the temporal interrelations among situations presented in a narrative (cf. section 1.2.2.4). Such relations link up "a series of successive instants in the narrative world which correspond to the moving reference point in the narrative construction of that world" (Polanyi 1985:10).

According to narrative-based aspectual theories, the categories *event* and *state* are not (as Vendler seems to have assumed) rigidly defined over particular classes of lexical predicates (i.e., verbs), or even over situation types—the latter of which we represent as tenseless propositions like *Harry fry a fish*. The demands of creating a coherent temporal discourse will often induce the narrator to override the 'inherent categorization'

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(equivalently, Aktionsart) of a situation, e.g., to impose a stative construal upon an event predication. [3]

The aspectual means by which overrides are signalled will differ from language to language (cf. Smith 1986). These differences derive from the manner in which a given language encodes default aspectual categorization; they will be discussed in section 1.2.2.4. An examination of the means by which default aspectual categorization is grammatically signaled will return us to the question raised at the beginning of this section: is the perfective-imperfective division properly regarded as a grammatical distinction? As noted, some languages do not manifest the distinction directly, i.e., certain languages contain no means of indicating within the verbal morphosyntax whether the situation denoted by a clause constitutes an event or a state. One such language is English, which contrasts in this regard with Latin. Note the Latin examples in (1.1-1.2):

(1.1)	Statim	invenit	auxilium.	
	immediately	find:3sg:perf:act:ind	help:A	
	"He found help immediately."			
(1.2)	Se	Catilina	credebat	posse
	himself:A	Catiline:N	believe:3sg:imperf:act:ind	able
	urbem	incendere.		
	city:A	burn:pres:act:inf		

[3] As will be noted below, aspectual classes are not, strictly speaking, classes of lexical predicates; they are classes of clauses, insofar as a clause corresponds to a proposition which codes a situation of a given type. Dowty (1986) argues, however, that the aspectual class which a phrase or clause belongs to is derivative of the aspectual class of the main lexical verb, together with compositional semantic rules governing the integration of this lexical meaning with that of adverbials, nominal arguments, etc. Note that in referring to the aspectual class of a clause, etc. we are invoking the default or inherent aspectual classification, distinct from that which a particular narrator may place upon that situation.

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"Catiline believed that he could set fire to the city."

The situations presented in (1.1-1.2) are encoded in a manner which reflects their default aspectual characterizations. The speaker determines this characterization by assimilating the conceived or perceived situation to an ontology of idealized situation types (cf. Smith 1986). Since 'finding' is an event (an *achievement* in the Dowty-Vendler categorization), the verb *invenio* ('I find') in (1.1) receives perfective coding, i.e., the stem form and person-number desinence characteristic of perfective aspect. As a stative predicate, the verb *credo* ('I believe') in (1.2) receives imperfective coding. The English analogs of the Latin verb forms are inflected only for tense.

1.2.2. Grammatical and Inferential Reflexes of the Event-State Distinction

While English lacks any overt means of encoding the event-state distinction, there is evidence that perfective and imperfective aspects constitute *covert* grammatical categories in English. This evidence involves both grammatical phenomena and the licensing of textual inference. Grammatical ramifications of the event-state distinction arise from the distinct semantic properties attributed to events and states above. Thus, for example, event predications but not state predications are compatible with the so-called pseudo-cleft construction (Parsons 1990). The sentence *What Harry did was run* is acceptable, but the sentence **What Harry did was hate cats* is deviant. Such deviance can be attributed to the fact that events, unlike states, are classifiable as deeds or actions; the occurrence of an event entails an output of energy.

Given the semantic basis of grammaticality contrasts like that described above with respect to the pseudo-cleft construction, we might expect that certain grammatical traits will constitute cross-linguistically valid criteria for membership within a given aspectual class. There are, however, certain difficulties inherent in the use of grammatical criteria as universal tests for eventhood or statehood. Foremost among these difficulties is the fact that

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there is no cross-linguistic semantic parity among language-particular instances of a grammatical phenomenon that might, in a particular language, prove useful as a sorting heuristic. For example, the compatibility of perfective aspect with present-tense inflection will depend upon the semantic range of the present tense in the language at issue. English differs from languages like French in opposing the simple present to a progressive present. In English, present-tense event predications, if intended as reports upon circumstances ongoing at present, must appear in the present progressive. Thus, a sentence like *He falls*, while having the potential for a habitual interpretation, is anomalous if interpreted as a report about the present state of things: the moment of speech cannot accommodate the positive temporal profile of the event. The present-progressive sentence *He is falling* is, however, acceptable. The progressive (as will be argued below) denotes a component state of the overall event, this state can be fully instantiated during the moment at which it is reported. In French, by contrast, the simple present *Il tombe* (lit. 'he falls') is acceptable, insofar as the present is here interpretable in a manner analogous to that suggested for the English present-progressive. In French, therefore, the simple present covers a semantic territory shared by simple and progressive presents in English. As noted by Smith (1992:ch.5), "[f]ormalization of the limitation of Present sentences will vary from language to language". This argument is echoed by Cooper (1986:29ff), who regards the English present tense as encoding a variety of temporal reference that is uniquely constrained vis-à-vis present-tense analogues in other languages:

> English is quite exotic in having the reportive sense of the simple present. In most other languages (even such closely related languages as German and Swedish) the simple present behaves much more like the progressive behaves in English. We could account for this difference by saying that the semantic interpretation of the present in other languages requires the discourse location to temporally overlap the event location rather than be identical with it.

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(Note that by *location* here, Cooper intends spatio-temporal location.) Because the value of simple-present inflection must be determined on a language-particular basis, resistance to simple-present inflection is not a cross-linguistically valid test for eventhood.

1.2.2.1. ***Countability.*** There is one grammatical test for eventhood which, although often yielding equivocal results, appears to have cross-linguistic validity (cf. Herweg 1991b). This test involves the acceptance of count adverbials. As shown in (1.3-1.4), event predications are compatible with such adverbials, while state predications are not:

(1.3) Harry fell down twice today.

(1.4) *Harry hated cats several times last year.

A number of analysts, including Mourelatos (1981), have suggested that one can account for such facts by means of a spatial analogy: while event predications are akin to count nouns, state predications are akin to mass nouns. The anomaly of (1.4) is therefore similar to that displayed by such expressions as **two muds* or **three waters*. In both the temporal and spatial domains, individuality is a prerequisite for countability. If the category to which an entity belongs can be regarded as a property attributable to that entity, then one can regard counting as specifying "the number of possible distinct applications of a predicate to entities which satisfy that predicate" (Herweg 1991b:971). Under this view, to refer to an entity as water, etc. is equivalent to categorizing that entity. Logically, this type of operation can be represented as the application of a predicate to the categorized entity: Water'(e). This type of representation simply captures the insight, discussed by Jackendoff (1983), that when one refers to something (without making use of deixis or anaphora), one makes a categorization judgement. Counting is akin to enumerating applications of that categorization judgement.

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A similar analysis can be applied to the domain of eventualities (states and events). For example, to report that Harry fell is to assert the existence of an event characterizable as a falling event of a particular type: Harry-fall' (e). But what of states? We might wish to follow Herweg (1991a, 1991b) in regarding states as predicates which apply not to 'event entities' but to intervals of time. That is, to assert that Harry was ill is to assert that there was a period of time characterized by the presence of the state in question: Harry-be-ill' (t). Given this analysis, one captures the mereological property of distributivity by stating that the state-type predicate (be-ill', etc.) applies not only to the interval at issue, but also to all subintervals of that interval. The property of distributivity renders a state a nonindividual; individuality is contingent upon the inapplicability of the categorizing predicate to subparts of the categorized entity. As Herweg argues (1991b:972):

> assigning a uniform internal part structure to something means to deny it the logical status of an individual: the entity is uniformly structured with respect to the predicate in the sense that its parts satisfy the predicate as well.

Thus, for example, the predicate *human'* cannot be applied to any body part of the entity at issue. By contrast, the predicate *water'* can be applied to all subparts of the quantity so characterized. Furthermore, a human is readily circumscribed, whereas water as such is not. Therefore, a human is an individual, whereas water is not. This semantic difference produces a constellation of grammatical reflexes typically referred to as the count-mass distinction. The countability facts displayed in (1.3-1.4) are analogous. The anomaly of (1.4) can be explained in the following fashion. Counting is equivalent to specifying the number of times a predicate applies. However, since the argument of a state predicate is a time interval—characterized by the property of distributivity—there is no way to circumscribe the set of applications of the state predicate in such a way that they are enumerable. That is, one cannot assert that the state predicate (Harry-hate-cats') applies to

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its temporal argument several times as against an infinite number of times. If that predicate applies to an entity *t*, it may also apply to subparts of *t* (via distributivity) and periods inclusive of *t* (via cumulativity). By contrast, since an 'event entity' is subject to one and only one application of the characterizing predicate, one can readily enumerate applications of that predicate which fall within certain temporal boundaries (e.g., those described by *today* in 1.3). The number of applications is the same as the number of the entities themselves (*two* in 1.3).

As mentioned, the countability criterion is not always a reliable mean of differentiating states and events. As noted by Mourelatos (1981), such sentences as (1.4) are acceptable insofar as the count adverb is interpreted as counting associated occasions rather than quantities of states *per se*. That is, sentence (1.4) might be interpreted as asserting that there were several occasions upon which Harry hated cats. Can one give a reasonably precise semantic definition of *occasion*, such that the enumerability of occasions (as against states *per se*) is predicted? One might choose to define an occasion as a period during which the state in question begins, holds for 'awhile' and ends, such the state holds at no interval which subsumes this period. The existence of such a period entails that the state will terminate within the interval for which it is asserted to obtain. This definition of occasion matches the definition of *state phase* to be given in section 1.3.3.3.

As mentioned earlier with respect to activity predicates, the fact of susceptibility to cessation (or salience of endpoints) imbues a situation with features otherwise associated with event predications. Cessation is a form of dynamism, insofar as it entails change from one phase (existence of the state) to another (lack of that state). In accordance with Herweg, I will regard bounded states as events. As events, bounded states situational individuals, subject to enumeration, as in (1.3). The event in question is that of a state's holding for some period. Typically, the period itself is specified by means of a durational adverb (i.e., *for*-phrase). Note example (1.5):

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(1.5) Harry was in the basement for ten minutes.

The situation described in (1.5), which we will represent as the tenseless proposition *Harry be- in the basement for ten minutes*, lacks the feature of distributivity; no subpart of being in the basement for ten minutes counts as an instance of that same situation. Insofar as it (a) lacks the distributivity property, and (b) entails a point of culmination within the evoked past interval (i.e., the time at which the ten-minute period is over), the situation decribed in (1.5) represents an event. The presence of a durational adverb is not, however, a necessary prerequisite for the episodic or eventive interpretation of a state. While such an adverb explicitly assigns a (particular) duration to a state, there is also the possibility of implicit bounding, exemplified in (1.6). This sentence is analogous to the somewhat more marginal (1.4):

(1.6) Harry was in the basement three times last week.

As shown by the acceptability of enumeration, the situation in question (Harry's being in the basement) is a bounded state. In accordance with Herweg, we will regard such implicitly bounded states as state phases akin to those denoted by state predications containing durational adverbs (cf. (1.5)). Returning to our spatial analogy, we can say that state phases are analogous to implicitly bounded masses. Thus, Fillmore and Kay (1991) argue that an implicit bounding operation licenses countability in such examples as *two beers, three sugars*. Implicitly bounded state phases, like explicitly bounded states phases, are events, and are classifiable as such by means of the enumerability test.

1.2.2.2. ***Present-tense reporting***. Another test for eventhood, described earlier, involves the compatibility of the particular aspectual class with simple present-tense inflection. As mentioned, this test is applicable only in those languages which, like English, feature a grammatical contrast in which a simple present is opposed to a

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progressive present. In other languages, the simple present indicates 'full instantiation' of the situation when attached to a stative predication, and imposes an imperfective interpretation when attached to an event predication. In Latin, for example, the present-tense predication *Marcus invenit auxilium* (lit: 'Marcus finds help') is interpreted, if construed as a report about the present situation, as a report upon a situation in progress (i.e., help is being sought at the time of speech).

The intimate bond between imperfectivity and present-tense reporting in languages like Latin is indicated by the fact that these languages, while contrasting imperfective and perfective pasts, uniformly lack a formal distinction between perfective and imperfective *presents*. The lack of this contrast can be attributed to the fact that 'perfective present' is not a coherent concept. This section will provide an account of why this is so. First, however, let us note the English facts in question. As shown in (1.7-1.8), perfective aspect differs from imperfective aspect in that that perfectively encoded situations cannot be reported upon by means of the present tense:

(1.7) *Harry cleans the trout.

(1.8) Our landlord is outside.

The situation reported in (1.7) is an event, while that reported in (1.8) is a state. The anomaly of (1.7) is explained fairly easily when one presumes that speech time (the moment of reporting) is construed as a single point. As Smith argues (1992:ch.5):

> [t]he present moment is conceived as instantaneous, and utterances are conceived as instantaneous. It follows that an utterance can only refer to an event that is over, or an event in progress: an utterance cannot present an event in its entirety, because doing so would in principle involve more than one bounded moment.

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Smith's argument requires some clarification. Her claim that the "present moment...is instantaneous" is circular: what can a moment be other than an instant? If we take her to be saying that the present *per se* is construed as an instant, then this claim would seem to be falsified by expressions of habitual action, e.g., *They make VCRs a lot smaller now*. Here, the time described by *now* is the whole of the present era. Given that the present moment in fact need not be conceived of as an instant, we must revert to Smith's second claim: that *utterances* are conceived of as instantaneous. Langacker (1982:286) amplifies this point:

> [Speech time is] taken to be a single point in time as a matter of linguistic convention. This makes it compatible with imperfectives in the present (*He resembles Harry*) because imperfectives imply constancy of a situation through time, and a single point is sufficient to verify full instantiation (or existence) of the process. The trajectory of a perfective, however, is instantiated only with the passage of time...so it cannot be verified at a single point.

Under the rubric of perfectives (i.e., events) we will, as mentioned, we include activities and bounded states. Homogeneously composed activities (like sleeping, pondering, and wearing a hat) can be identified with bounded states, insofar as both denote an episode (period) of stasis, i.e., a state with salient inception and termination points. Such an interval cannot be fully instantiated at the present moment; bounded states and activities are identifiable as such only upon culmination. One can note, for example, the anomaly of (1.9). The intended reading here is reportive rather than habitual (the latter reading is evident in sentences like *Harry is ill for two days every week*):

(1.9) *Harry is ill for two days.

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Since no proper subpart of the durationally bounded state is an instance of that state, one cannot assert full instantiation of that state at speech time. The predicate *be-ill* was chosen here in order to preempt the 'scheduled stay' reading associated with sentences like *Harry is in Cleveland for two days*, which denote a currently in-force locative state with a predetermined future terminus. Apparently, this present-tense predication would be felicitously used only at or near the beginning of Harry's sojourn in Cleveland.

Heterogeneous activities and telic event types (i.e., situations representing accomplishments and achievements in the Dowty-Vendler scheme) are likewise incompatible with present-tense reporting. Existence of the full complement of distinct phases which comprise such events is verifiable only once the final phase has been instantiated. Thus, such events can be reported only in the past tense, upon cessation, or in the progressive (past or present). [4] The progressive, as we will note in section 1.4 below, serves to arrest the development of an event en route toward its point of culmination; the progressive construction denotes a situation which represents a component state of the event denoted by the present-participial complement. That existence of that state is verifiable at the moment of reporting, and thus we find such present-progressive sentences as *Harry is cleaning the fish*, etc.

As it stands, however, this account does not explain certain exceptions to the rule that events cannot be reported by means of the simple present. These exceptions include performatives, as in (1.10), and 'play-by-play' reports, as in (1.11): [5]

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[4] It is important to keep in mind here that we are concerned with reports rather than predictions: events are readily denoted by futurate predications, e.g., *Harry will finish his work.*.

[5] Other varieties of present-tense event reporting will require analyses distinct from that offered here. Among these uses are the historical present and the so-called information present. The latter has been described in some detail by David Denison (UCB linguistics colloquium, April 1992). Denison examines present-tense reporting of sensory and communicative events in such examples as: *Harry tells me you're not feeling well* and *I hear that he did well*. The licensing of the present tense in such cases appears to arise from the fact that the relevant situation is the speaker's current state of being 'in the know' as a result of

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(1.10) I hereby christen this ship the *Alaskan Princess*.

(1.11) He swings. He misses.

Langacker (1982) chooses to regard the presence of present-tense inflection in these instances as indicating "full temporal coincidence" of the event reported and the reporting event. The time of the utterance event then necessarily represents an interval, rather than a point. At first glance, this view appears preferable to the analysis described above: it is difficult to reconcile the extended temporal profile of the events in question (christening, swinging, etc.) with the allegedly momentaneous nature of the present in which they are situated. It is worth noting, however, that the events in question typically fill 'slots' in highly ritualized scripts. For example, only certain events are eligible for the play-by-play presentation. As Langacker (1991), among others, observes, event sequences of the following sort are not felicitiously reported upon by means of a play-by-play account:

(1.12) Jones hits a high fly to left field. Ryan chases it. ??A streaker appears on the field.

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the past event denoted. The situation here appears to be the inverse of that in Latin. In Latin, there are certain conventionalized uses of the perfective to indicate a present state. Thus, for example, the perfective *memini* means 'I remember'. The present knowledge state is portrayed as a result of a past event of recalling some information to mind.

Another present-tense mode of event reporting, typically grouped with such 'special cases', is the habitual, as in *Harry buys a new car every year*. I will follow Langacker (1987) in regarding the habitual as a variety of imperfective aspect, rather than as a specialized interaction of present tense and perfective aspect. The fact that the habitual denotes stasis across time justifies its assimilation to the category of stative predications.

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In (1.12), the noncanonical nature of the streaking event prevents its inclusion in the play-by-play description. It would seem, then, that this mode of reporting is confined to events which represent formulaic occurrences. The job of the reporter, according to Fussell (1991:187), is to "certify each play", the assumption being that "nothing is real unless validated by the [commentator's] interpretation". Of course, in the case of play-by-play reports like (1.11), we would not want to say that the bat's failure to connect with the ball is a formulaic occurrence. However, the event in which the batter misses the ball fills a slot in the batting script: the outcome of the swinging event, which may be a hit or a miss. Scripted events lack a full complement of phases. More accurately, these events are *construed* as lacking internal structure. This is a function of the level of granularity at which the interpreter views the event (cf. Talmy 1988). Commentators concern themselves not with the internal temporal composition of each event, but only with the fact of the event's occurrence, since this determines what will happen next. This sort of view is advanced by Hinrichs (1986:66), who states: "[a]lthough we know that [such] events...are not instantaneous in any absolute sense of time, we nonetheless perceive them as somehow punctual". Performative 'events' like (1.10) also seem to lack a full complement of phases, insofar as the subphases are difficult to delineate. It is difficult to determine, for example, when an event of christening begins and when it culminates. These events then constitute "pseudo-instantaneous events" as well.

The validity of this analysis is substantiated by facts related to acceptance of the adverb *right now*. Presumably, *right now* indicates full temporal coincidence of a situation with the time of speaking (cf. footnote 6). Since present states are necessarily cotemporaneous with speech time, all such states accept *now* (*Harry is chairman right now*, etc). In general, acceptance of *now* constitutes a test for stativity (cf. section 3.9.2). Here, we use *right now* rather than *now*, since the latter, as mentioned, may encompass the whole of the present epoch (e.g., as in *Dinosaurs are now extinct*). In such cases, as noted, a habitual action may be invoked (*Now Paul visits every year*). Predicates denoting habitual actions

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resemble predicates denoting imperfective situations in that both portray a situation which is stable over time (Langacker 1991). Our conception of habitual action does not, however, require that the denoted situation be coincident with the time of reporting: Paul may or may not be visiting at the time the report is issued. One might say that an predication which denotes a habitual action evokes an interval during which a pattern of periodic episodes obtains (i.e., the state of 'being in' a given pattern). Insofar as this is the case, we can presume that *now* combines with state expressions exclusively. Since, however, our focus is on instantiation of a situation at speech time, we will concentrate upon that reading of *now* which is compatible with the expression of nonhabitual stativity—this is that reading evoked by the adverb *right now*.

Langacker's account of performatives and play-by-play reports requires that the temporal profile of the event in question coincide with the time of speech. If we accept this analysis, however, we have no way of accounting for the anomaly of (1.10') and (1.11'):

(1.10') ??Right now I christen this ship the *Alaskan Princess*. [6]

(1.11') ??Right now he swings. ??Right now he misses.

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[6] There is a special use of *now* with performatives which translates as "at this point in the proceedings": *I now pronounce you man and wife*. The use of *right now* in (1.10') obviates that reading in which the performative utterance is one in a series of ritual acts. There is another special use of *now* with imperatives, as in *Do it (right) now*. Here, we might say either that (a) *now* evokes a future time that is incrementally removed from the present or (b) *now* refers to the time at which the obligation to perform the denoted action obtains. In the latter case, the *now* welcomed by imperatives resembles that which co-occurs with modal predications, particularly deontic ones (*Harry must now go*). Modal predications are straightforwardly analyzed as stative predications (cf. Hornstein 1991 and footnote 30, ch. 3); imperatives are not. Nevertheless, imperatives, like deontic modal predications, evoke present conditions (a social obligation, e.g.) which can influence a future course of events.

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Such data lead us to prefer Hinrichs' analysis of performative and play-by-play assertions. The time of speech is conceived of as a moment. Under certain (conventionally defined) reporting conditions, a speaker may portray an event as momentaneous. Events amenable to this construal are ritualized or scripted occurrences. The conditions in question exist when the internal temporal constitution of the event (i.e., the sequence of subphases which make up the event) is (a) overlooked as a consequence of the level of granularity at which the interpreter views some set of scripted proceedings (in which events represent points on a linear pathway of interconnected occurrences) or is (b) 'ineffable' or not well defined (as in the case of a performative speech act like christening).

One problem still plagues the present account: the conditions under which a situation can be viewed as cotemporaneous with the time of reporting cannot be described with respect to the time of speech (i.e., the present) alone. We must also account for the fact that in the decriptionof past-time indirect discourse, in which a proposition is represented as the (past) thoughts or speech of some individual, an event predication cannot be viewed as a situation which subsumes the time of the past-tense *verbum sentiendi ac declarandi*. Thus, in sentences like *Harry said he failed the bar exam*, the time of the event of failure must be viewed as prior to that of the reporting event. (Accordingly, the past perfect may be used in the subordinate clause in such cases.) By contrast, in sentences like *Harry said he was under the weather*, the (past) time of the illness and the subsequent (past) time of reporting may or may not overlap (although, again, in the latter case, the past perfect may be used in the subordinate clause). Given such data, we can conclude that it is a reporting event *per se*, rather than that reporting event in which the speaker is currently engaged, which is seen as momentaneous, and therefore incapable of accommodating the extended temporal profile of the event denoted by the subordinate-clause predication.

1.2.2.3. ***Extensibility***. The compatibility of imperfectives, progressive and otherwise, with simple-present inflection can then be attributed to the property of distributivity. Since any given moment of a state is an instance of the whole, the presence

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of a such a state can be evaluated at the point of reporting. The property of cumulativity has certain semantico-grammatical ramifications as well. As noted by Langacker (1987), among others, event predications are incompatible with assertions of continuance from past to present:

(1.13) Harry and Marge had a fight about that, *and in fact they still do.

(1.14) Harry and Marge had a pact, and in fact they still do.

As noted by Herweg (1991b:971), states "form...a continuous collection of overlapping entities [i.e., times]". Insofar as this is the case, one is free to devise an interval inclusive of present and past, which is characterized by the presence of the state in question. This is shown in (1.14). Events lack the property of cumulativity; the tenure of an event is exhausted by the temporal period for which it is asserted. Past and present periods of occurrence cannot be conjoined to yield a larger interval characterized by the presence of a given event.

1.2.2.4. ***Aspectual class and textual inference; the role of reference time.*** A final ramification of the event-state distinction involves the manner in which aspectual class influences the inferences brought to bear by interpreters of temporal discourse in the course of constructing a representation of the temporal relations (overlap, succession) among the situations described. By 'temporal discourse', we mean here a series of past-tense sentences whose ordering is meant to reflect the order in which the events denoted occurred (cf. Kamp and Rohrer's definition in section 1.1). Of crucial importance in the examination of temporal discourse is the manner in which states are related temporally to the 'mainline' event predications of the text.

A number of investigations of narrative interpretation have been carried out within the framework of Discourse-Representation Theory (DRT), developed by Kamp (1979) and extended by Partee (1984), among others. This framework attempts to integrate discourse-

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pragmatic considerations with model-theoretic semantics, insofar as semantic interpretation is regarded as a dynamic process; truth conditions are given for discourses relative to a model that is continually augmented through the course of narrative construal.

This view, as well as a similar perspective employed by Dowty (1986), accords a central role to Reichenbach's (1947) notion of reference time (R). A salient feature of Reichenbach's system of temporal representation is the distinction between event and reference times. This distinction allows for the possibility that the time to which the speaker directs the hearer's attention (the reference time) is not the time at which the event denoted took place. Event and reference times are not necessarily decoupled. Hornstein (1990:12) notes that in the case of the simple tenses (past, present and future), "[t]he mediating function of R seems superfluous, as it is interpreted as cotemporaneous with E [event time]". Thus, in the case of the simple past, E and R are identified, and interpreted as earlier than speech time.

What is reference time? Despite the intuitive plausibility of the notion, a clear definition has proven somewhat elusive. Reichenbach did not offer one, and therefore we do not know whether he viewed R as a purely pragmatic construct or as a part of the 'literal meaning' of tensed expressions. As Dinsmore notes (1991:208):

> It has been unclear whether [Reichenbach's] description [of R] says something about truth conditions of sentences, or makes claims about the pragmatic conditions under which [tensed expressions] are actually used felicitously in discourse.

Latter-day interpreters of Reichenbach have tended to highlight either semantic or pragmatic features of interpretation in defining R. According to the definition given by Partee (1984), R is a "locative frame of reference" which is "part of the necessary context for interpreting tensed sentences" (p. 265). Klein (1992:535) provides a discourse-pragmatic definition: "[reference time] is the time for which, on some occasion, a claim is

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made". With respect to the past tense, the import of this notion is the following: the past-tense sentence locates a state of affairs at a point prior to speech time; the point in question is not simply a random point in the past, but one that is either generally identifiable to the interlocutors or represents a focus of their attention. This conception of past-tense reference distinguishes Reichenbachian theories of temporal reference from temporal logics based upon the work of Prior (1967). In theories of the latter type, the truth of a past-tense assertion like *Harry died* follows from the truth of the tenseless proposition (*Harry die*) at *some* time in the past. On this view, the past tense is an operator akin to an existential quantifier over past times, i.e., the whole of the past. By contrast, Reichenbachian views have tended to suggest that the past interval at issue is anaphorically bound, insofar as past-tense assertions 'refer back' to an interval previously activated in discourse or generally accessible to the interpreter. [7] Thus, as Partee (1984) argues, Reichenbachian views regard the past tense as referring not to *some* time in the past, but to *that* time in the past. For example, if I announce to an addressee, upon emerging from the TV room, *The Bears lost*, my addressee will be induced to evoke that past interval in which the recently viewed game culminated, rather than a large chunk of history containing defeats of the Bears by various opponents. For all practical purposes, reference to a unique (identifiable) past time entails

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[7] A number of investigators, including Richards (1982) and Cooper (1986), have used the unfortunate term *deictic* or *deictically determined* to refer to the time of occurrence evoked by preterite-form expressions. The import of the term here is the following: the interpreter must search the discourse context (linguistic or extralinguistic) in order to find the past interval evoked by the preterite-form utterance. The terms is confusing, in that we are accustomed to thinking of the reference time associated with the *present* tense as deictic, insofar as it is identified with speech time. In section 4.1, we will make two primary arguments with regard to the theory of temporal anaphora: (a) past-time reference does not necessarily entail anaphoric reference, although it generally entails that the evoked past interval is closely circumscribed, and (b) the Priorean rather than Reichenbachian model may be appropriate for some preterite-form sentences. In adopting the latter claim, we are in agreement with Partee (1984) and Cooper (op. cit.). This claim will contribute to our characterization of the preterite as unmarked with respect to the 'anaphoricity' feature.

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reference to a unique event or state of affairs. [8] Therefore, if we are to assume that the past can in fact be represented by means of an existential quantifier over events and times, then this quantification must be appropriately restricted: in particular, the temporal interval bound by the existential quantifier must be the closely circumscribed interval that a speaker has in mind (and believes that the hearer has in mind or can readily call to mind) when making a preterite-form assertion.

This conception of reference time has proven troublesome to some theorists, because it appears to collapse discourse-pragmatic and truth-functional features of sentence

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[8] This is not necessarily the case, as one might assert the existence of a series of events within the interval in question. Consider the following sentence:

(a) When she was in New York, my mother had dinner at several famous Italian restaurants.

In (a), reference time is circumscribed (it is the time referred to by the temporal clause), but the speaker asserts that several dining events, rather than a unique event, occurred within that time. To prefigure somewhat the analysis of the present perfect to be offered in chapter five, we can say here that the 'uniqueness' condition upon the past tense is stronger than that associated with the existential perfect (b) and weaker than that associated with the resultative perfect (c):

(b) Harry has been to Paris.
(c) Harry has gone to Paris.

Sentence (b) presupposes that the visiting event is replicable (e.g., Harry must be presently living and therefore capable of taking a trip). Futhermore, the interval in which one or much such events occurred is an effectively unlimited period upper bounded by the present. Sentence (c) differs from (b), and resembles a preterite-form assertion, in that it evokes a unique event time. The sentence differs from a preterite-form sentence in that this time of occurrence does not represent a discourse-active reference time. Furthermore, the event denoted is a unique event; an iterative interpretation (evoked by the presence of a frequency adverb like *twice*) is not compatible with the resultative reading of (c), in which Harry is currently in Paris. Notice, however, that the preterite is not bound by this uniqueness condition: *Harry went to Paris several times last year.*

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interpretation. Perhaps spurred by an interest in maintaining a distinction between literal and contextual meaning, some theorists have rejected a semantic account of reference time. Dinsmore states (ibid):

> ...there seems to be a consensus among semanticists who have been concerned with the topic, articulated for instance by Taylor (1977), that reference time is a purely pragmatic notion that has nothing to do with semantic interpretation. The argument is that differences in reference time do not seem to correlate with differences in truth conditions.

The argument to which Dinsmore refers has, however, been undermined by Heny (1982) and Richards (1982), among others. Richards, for example, examines the truth conditions associated with sentences like *I took out the garbage*. Presumably, this sentence will be false if the speaker failed to take out the garbage at the point in history which he or she assumes the addressee to have in mind. That is, the sentence will not only violate the quantity maxim but also qualify as false if the period to which the speaker is referring is last year rather than, say, an hour ago. In other words, appropriate circumscription of reference time (i.e., location of the relevant interval in a history) is typically a prerequisite for the determination of the truth or falsity of preterite-form sentences. As we will note in section 4.1, however, the time denoted by a preterite-form sentence may not be identifiable, i.e., precisely localized within a history. [9]

Heny presents an argument—an apparently falsifiable one, as it turns out—that the interpretation of past-tense predications is analogous to the interpretation of specific

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[9] In uttering the sentence *John Keats died of tuberculosis*, the speaker necessarily has a unique past point in mind, since the event in question could have happened only once. However, the speaker may not know at what point in the past the denoted event culminated. Insofar as this is the case, the truth or falsity of the assertion does not hinge upon the interpreter's ability to locate the denoted event within a history.

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indefinite NPs. Imagine the following situation. A speaker reports: *A dog bit me on the leg*. Let us assume that the dog that the speaker has in mind (a whippet) did not in fact bite the speaker, but that—unbeknownst to the speaker—a terrier bit him or her. Is the sentence thereby false? Most speakers would report that the sentence is true under these circumstances. Therefore, the interpretation of specific indefinites is not analogous to that of the preterite. In the latter case, truth conditions must refer to an 'agreed upon' interval with respect to which assertions are relativized. In the former case, a sentence may be judged true even if it is not true with respect to the particular referent that the speaker has in mind. One might say that truth conditions for the past tense must incorporate two context-dependent time variables. There is a time with respect to which anteriority is calculated. This is the time at which the discourse takes place (i.e., speech time). The anterior interval itself is a time which is salient in the discourse, i.e., which is in the foreground of the shared consciousness of the interlocutors at the time the past-tense utterance is made. Past-tense time reference is typically both deictic and anaphoric.

As Hinrichs observes (1986), the anaphoric function of the past is most apparent when reference time is simply the time denoted by a definite time adverb (*yesterday*, etc.) or other 'temporal antecedent'. A temporal antecedent may be provided not by a temporal adverb but by the time frame evoked by a prior past-time assertion: *Jim crashed the Ford. He broke his arm*. In interpreting such sequences, we understand that the time of the arm-breaking event is the time of the previously mentioned accident. Where a definite past-time adverb accompanies the past-tense assertion, "[t]he adverb...provides a descriptive characterization of the...reference time" (Partee 1984:257). The past tense refers to a limited period prior to the event of utterance. A state will subsume that reference time (Partee op. cit.). The deictic temporal adverb *yesterday* further specifies this past time reference. Thus, in a sentence like *Harry was in Cleveland yesterday*, the adverb constrains the past reference time to a period one day prior to speech time. However, the interaction between reference time and adverbial reference is somewhat more complex than an analysis cast in terms of anaphoric

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binding would suggest. The reference time associated with the past-tense predication need not be identified with the time of the past-time temporal adverb. As Partee observes (loc. cit.), a time adverb "may identify [the reference time] completely ('at 3 o'clock on June 12') or simply put bounds on it, as with 'frame adverbials' like 'in June'". On the frame-adverbial reading, the interval coded by *yesterday* includes the past reference time. In this case, the one-day period may exhaust Harry's presence in Cleveland. That is, this state may obtain only for some subpart of yesterday. Since states are in principle unbounded, contextual features must determine whether the given state is properly or improperly included within the boundaries of a frame adverbial. On the complete-identification reading, the day-long interval is identified with the reference time; yesterday is properly included within the span of Harry's sojourn. The state necessarily overflows the bounds of the interval *yesterday*.

What of cases in which no past-time adverb or is present, and in which no time frame has been invoked by preceding context? Note, for example, discourse-initial past-tense assertions like *He left me*. In such sentences, linguistic context does not apparently determine the manner in which the relevant past-time interval is circumscribed. In general, theorists have attempted to assimilate such examples to the class of anaphoric cases, whether they regard them as featuring a 'zero time-adverbial' (cf. Heny 1982, McCawley 1971) or as containing a temporal variable bound to a 'nonlinguistic antecedent' (Partee 1984). A nonlinguistic antecedent is a past-time interval which is somehow readily conjured up in the minds of speaker and addressee, owing to the fact that it is very recent, or otherwise salient within the shared history of the interlocutors.

As Partee (1984) notes, however, the anaphoric analysis of the past tense is difficult to apply consistently, since narrative texts typically feature a succession of reference times, each interpreted as immediately following the one prior. Note the short text given in (1.15):

(1.15) Harry walked into the kitchen. He opened the oven. He glanced inside.

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Each event is located within a reference time that is intepreted as 'just after' the reference time of of the perfective sentence immediately preceding. With respect to such examples, Partee (1984:256) argues:

> The proposal...that past tenses be taken as directly analogous to pronouns, referring to the time specified by a preceding clause or adverb, is incompatible with the moving forward of time in successive event sentences (it would be as if pronouns referred to the *father* of the last mentioned individual!)

One solution to this problem, which has generally been adopted in DRT, is to propose an interpretive rule which requires that each new past-tense event sentence be properly included within the current reference time, and that the interpretation of each such sentence entails that the reference time is shifted to a later point along the narrative time line. Returning at last to the issue of inference in narrative, we can note that the algorithm in question is intended to capture the interpreter's ability to infer the presence of a chain of real- or narrative-world events from texts like (1.15). The discourse representation models the relevant inference by specifying that each event is subsumed by the then-current reference time, and that each event culminates within that reference time. That is, the events do not overlap, in accordance with our intuition about such texts as (1.15). As it stands, however, the model tells us nothing about the manner in which stative predications are integrated into the interpreter's model of the narrative world. Such texts as (1.16) exemplify the equivocal nature of temporal ordering in narratives involving state predications:

(1.16) Harry turned around. Marge looked happy.

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In (1.16), it is difficult to determine, *a priori*, whether the state of Marge's being happy began after Harry's turning, or whether it had obtained for an indefinite period prior to that event. [10] This vagueness is a fundamental characteristic of state predications in English. Speaking figuratively, we might say that states leak out of the reference times in which they are contained. Barring the intercession of a durational adverbial or other extent adverb (elements which, as we noted above, impose an eventive construal upon a state), only extralinguistic context can circumscribe the interval for which a state obtains.

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[10] This type of ambiguity is not ordinarily present in languages having a morphologically expressed event-state distinction. For example, the French version of (1.16) would involve either the *imparfait* (imperfective aspect) or *passé simple* (perfective aspect), depending upon whether or not the state of affairs obtained prior to reference time (the time immediately following Harry's action):

(a) Henri se retourna. Margot { avait l'air (imp) / eut l'air (p.s.) } heureuse.
'Henri turned around (perf). Margot { looked (imperf) / suddenly looked (perf) } happy'.

Use of the *passé simple* in (a) induces the inceptive reading of the state predication. A given French translation of (1.16) is therefore unambiguous with respect to the relative order of perfective and imperfective situations. This fact is compatible with a central typological claim of this chapter: languages having a morphologically expressed event-state distinction license use of the morphology in question for the purpose of overriding inherent aspectual class (in this case, to perfectivize an intrinsically imperfective situation). Perfective aspect serves to focus the interpreter's attention upon the boundaries of the situation denoted (c.f. section 1.4). Use of perfective aspect in (a) evokes an inceptive interpretation of the stative predication *avoir l'air heureuse* by focusing the 'lower bound' of that situation—the point of inception. Since English lacks a grammatically encoded event-state distinction, focus shifts of this sort must be accomplished by other means, e.g., by the use of constructs belonging to the system of phasal aspect. Thus, the inceptive construal of the state predication *Marge looked happy* can be coded by the use of the inceptive construction: *Marge started to look happy* is, as claimed here, a perfective sentence. The encoded state of affairs is therefore understood to obtain only following the last introduced reference time. In the absence of the inceptive operator, the English sentence is ambiguous. Since the marking of past tense entails aspectual encoding in French, a given French translation of (1.16) is unambiguous.

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Such extralinguistic context, as Dowty observes (1986), must be viewed as including "'common sense' reasoning based on the hearer's knowledge of real-world information" (p. 41). Such reasoning commonly proceeds from knowledge of the semantic frames associated with the lexical verbs present in the text, coupled with the ability to envision a complex scenario in which two or more of the scenes depicted 'fit together'. Note, for example, the short text found in (1.17):

(1.17) A water balloon hit the pavement near Harry's feet. Harry was soaking wet.

Upon reading (1.17), cooperative interpreters will adduce an inceptive interpretation of the last stative sentence. That is, they will presume that Harry's sodden state obtained after the lobbing of the water balloon. This presumption follows from application of a principle of text interpretation which Kay (1983) labels the Parsimony Principle: "[w]henever it is possible to link two separate scenarios into a single larger scenario by imagining them as sharing a common participant, the ideal reader does so" (p. 221). In illustrating this principle, Kay notes texts of the following kind: *In the morning, we bought a trout at the market. That night, we cooked a wonderful fish dinner.* The competent reader, upon reading this text, will equate the edible participant in the dining scenario with the goods participant in the previously mentioned commerical-event scenario. In the case of (1.17), we can presume that cooperative readers will equate the target of the water-balloon tossing with the sufferer of the wet state. While the actual terminus of the water balloon's trajectory is the ground, the reader's understanding of fragmentation weapons (e.g., hand grenades) allows him or her to infer that the intended target of the projectile is someone in the *vicinity* of the point of contact. For an uncooperative reader, who does not identify Harry's wetness with the result of the balloon tosssing, the state may well have obtained for an indefinite period prior to the time for which it is asserted to obtain. This is a consequence of

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the properties of cumulativity and distributivity: it is always *possible*, although not always feasible pragmatically, to imagine a more inclusive interval at which a given state holds.

Partee (1984) builds this indefinite time-reference into the dictum that reference time (R) is properly included within a state, whereas an event is included within the reference interval. The reference interval exhausts the tenure of an event, but not the tenure of a state. Since R is within the state, the conceptualizer has only an internal perspective on the state—she or he is unaware of any terminal points. Partee's rule captures an intuition reflected in the following comment by Dowty upon the nature of inference in narrative texts (1986:48):

> the inferences that we draw in a narrative about which [...] states overlap with others in the narrative is not really a consequence of the times sentences are asserted to be true, but rather also in part a consequence of the times at which we assume that states [...] actually transpire in the real world, intervals of time that may be greater than the intervals of time for which they are simply asserted.

An assertion locating a state at a given reference time does not obviate the assumption that the state in question obtains at times anterior or subsequent to that reference time. In Cooper's terms (1986), state predications are temporally ill founded: they are not necessarily localized to the interval for which they are asserted. It is important, however, to recognize that quantity-based implicature frequently plays a role in circumscribing the tenure of a state asserted relative to a past interval. Note the contrast between (1.18) and (1.19):

(1.18) I took a cab over. The cab driver was Latvian.

(1.19) My former sister-in-law was Latvian.

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In (1.18), the assertion concerning the cab driver's ethnicity is relativized to the time at which the cab ride took place. In this case, what is asserted is that the cab-driver role was filled at that time by a Latvian, rather than that a given individual, describable as a cab driver, qualified as a Lativan at the reference time in question. The preterite form of the stative assertion is not viewed as evoking a limited period during which the cab driver has this ethnicity; the import of the past here is understood as anaphoric. That is, the reference time evoked by the stative assertion is the time evoked by the perfective predication that precedes it. By contrast, (1.19) is likely to be subject to quantity implicature. The preterite form of the assertion signals that the assertion is relativized to the past period in which the speaker was acquainted with the subject-denotatum. However, given the lack of an anaphoric function and the presumption that the speaker is being maximally informative, the interpreter will search for some compelling reason that the subject denotatum's ethnic identity is not asserted with respect to the present. The interpreter will thereby conclude that the state in question is limited to the past interval for which it is asserted. Thus, the period during which the ex-relative has the ethnic identity in question appears to be wholly contained within the past. This fact, along with the nontransitory nature of ethnicity, would lead the hearer to wonder whether the subject-denotatum is still living at present.

Barring the effects of quantity implicature, the interpreter of a narrative is free to construct from a past-tense stative assertion a superinterval which embraces events asserted both anterior and and subsequent to that state. Note the short text in (1.20):

(1.20) Harry glanced into the oven. The pilot light was out. He shrugged.

Given real-world knowledge, the reader will interpret the the stative proposition (encoded by the second sentence) as obtaining both prior to Harry's glance and subsequent to his shrug. The potential for this interpretation is modeled within some versions of DRT-based narratology (e.g., Partee 1984) by an interpretive constraint requiring that the

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reference time associated with a state predication is included within the state denoted. Since the state subsumes its reference time, there is nothing to bar the interpreter from inferring that the state obtained at points prior to and during the first mentioned event. Thus, the picture of the event-state distinction that emerges within DRT is one in which state predications form a static backdrop against which event predications are placed. Much the same view is present in nonformal functionally based approaches to the study of temporal discourse. These have, however, tended to focus upon text construction rather than interpretation, and have investigated universal features of narrative structure (cf. Fleischman 1990, Givón 1982, Hopper 1979, Kalmár 1982 and Rafferty 1982). Another focus in functionally oriented aspectology has been the development of narrative ability in children (cf. Antinucci and Miller 1976, Slobin 1990 and Slobin and Bocaz 1989). In advocating a discourse-based conception of the aspectual categories imperfective and perfective, Hopper (1979) represents the distinction between perfective and imperfective aspect as a contrast between narrative foreground and background:

> It is evidently a universal of narrative discourse that in any extended text an overt distinction is made between the language of the actual story line and the language of supportive material which does not itself narrate the main events. I refer to the former—the parts of the narrative which relate events belonging to the skeletal structure of the discourse—as foreground and the latter as background. (p. 213)

It is tempting to try to understand the distinction between foreground and background in terms of the discourse-pragmatic notion of old versus new information. However, supporting information cannot necessarily be equated with old information. According to Hopper, because foregrounded clauses denote the "discrete, measured events of the narrative", the verbs in question are typically punctual, i.e., perfective. In the narration of an event sequence, the identity of the subject is typically maintained across clauses. The

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subject-denotatum is topical, and perfective-form assertions thereby tend to represent predicate-focus sentences (cf. Lambrecht forthcoming). By contrast, imperfective predications often represent pragmatically presupposed propositions (old information). Binnick (1991) notes, for example, that in Russian, imperfective aspect characterizes verb phrases which lack a focused subconstituent, as when the subject is focused. Thus, for example, the English sentence *TOLSTOY wrote 'War and Peace'* (a response to the question 'Who wrote *War and Peace*?') is translated by the Russian *Tolstoi pisal* [imperfective] '*Voynu i mir*'. By contrast, Binnick notes, in a narrative in which writing represents one action engaged in by a given actor, the perfective form is appropriate. The correlation between old information and background, on the one hand, and new information and foreground, one the other, is not complete, as imperfective predications may represent predicate-focus assertions (cf., e.g., the Latin example given in (1.2)).

In general, within the context of a narrative, imperfective predications are used to provide information which helps the reader to understand why things happened as they did or to anticipate what might happen next. Perfectively described situations provide information about what happened, i.e., information that is indispensible to the narrative. As an illustration of this principle, note the short Latin text in (1.21):

(1.21)	Marius	ad Zamam	pervenit.	Id
	Marius:N	to Zama:A	went:3g:perf:act:ind	it:N
	oppidum...munitum		erat. —Sallust, *Jugurtha* 57.1	
	town:N	fortified:N	was:3sg:imperf:act:ind	

"Marius went to Zama. That town was well fortified"

In (1.21), a 'main event', Marius' arrival, is denoted by a perfective verb (*pervenio*), while a piece of background information, the state of the city, is imperfectively encoded. Although there is not sufficent context to discern the import of this background

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information, we can readily imagine a number of scenarios. For example, Marius visited to check the fortifications at Zama—the imperfective clause encodes the reason for his action—or Marius will encounter resistance—the imperfective assertion prefigures a forthcoming event. In fact, the context following the cited passage makes clear that the imperfective assertion represents the motivation for the next-mentioned action, taken by Metellus, another Roman general. The passage continues: *Igitur Metellus...moenia exercitu circumvenit* [perf]. That is, 'Therefore Metellus surrounded the walls with his army'.

If, however, we were to confine ourselves to such texts as (1.21), we would overlook a shortcoming of Hopper's analysis: it does not account for the fact that the inherent aspectual class (Aktionsart) of a given verbal scenario (i.e., predicate-argument structure) is not the sole determinant of whether that complex will function as narrative background or foreground. [11]

As Slobin and Bocaz observe (1989:7), "aspect can be flexibly used to indicate the way in which the narrator conceives of events, independently of the Aktionsart of the verb". That is, as mentioned earlier, the narrator may choose to override the inherent aspectual-class specification of the predication in order to signal the distinction between the main events of the narrative and the situations which represent settings for those events. In the case of a language like Latin, in which the event-state distinction is morphologically encoded, one type of override is accomplished by coupling the imperfective desinence with an otherwise perfective predicate. Note the following passage:

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[11] An additional weakness of Hopper's analysis, which is not germane to the discussion here, is that it cannot account for inceptive uses of stative predications in those languages which, like English, lack a grammatically encoded event-state distinction. In example (1.17), we note that a state predication denotes one of a succession of events, insofar as that predication is interpreted as expressing an inceptive event. In languages like French, as noted in footnote 10, an inceptively construed state will be expressed by a predication in the *passé simple* or *passé composé*.

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(1.22) Cum Ascyltos...in somnum laberetur,...
When Ascyltos:N in sleep:A slip:3sg:imp:pas:subj
ancilla in faciem eius fuligine perfricuit
maid:N in face:A his soot:AB rub:3sg:perf:act:ind
—Petronius, *Satyricon* 22
"When Ascyltos was falling asleep, the maid (suddenly) rubbed soot in his face."

In (1.22), the inherently perfective scene encoded by the predicate *labi in somnum* (lit. 'to slip into sleep') is encoded by means of an imperfective predicate. This encoding determines the manner in which the situations described in the narrative are to be related. The reader infers that Ascyltos had not yet fallen asleep when the maid performed her action. Had the first situation been perfectively coded, the interpretation would be that of a sequence of two events. Instead, Ascyltos' progress toward sleep forms the temporal setting in which the subsequently related event is to situated. In the DRT conception of narrative, the imperfective coding of the first situation ensures that the assertion in question will not advance the reference time of the narrative. The event predication following is relativized to the reference time contained within the aforementioned state (cf. Kamp and Rohrer 1983). Thus, the override in question allows the narrator to reconcile the inherently perfective profile of a predication with the need to portray that predication as background vis-à-vis a foregrounded event. (The manner in which imperfective predications may be foregrounded will be discussed in section 1.4.1.)

One cautionary note must be added with respect to the use of the term 'inherent aspectual class': aspectual class does not accrue to the verbal head in isolation, but to the verbal scenario (a predicate-argument structure). For example, the durative versus transitory nature of the 'stimulus' argument of the verb *hear*, encoded by the direct object,

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will affect whether a predication containing *hear* qualifies as an event or a state. Therefore, while the sentence *I hear someone singing* is a stative predication, the sentence **I hear a car accident* is an eventive predication, as indicated by the anomaly of a reportive construal.

As noted earlier, the means by which such overrides are accomplished in a given language will differ according to the manner in which that language encodes default aspectual classification. Since English lacks a grammatically encoded event-state distinction, the narrator lacks the option of overriding inherent perfective aspect via the attachment of an imperfective desinence to the verbal head in question. Instead, English relies upon an aspectual construction belonging to the system of phase-relation markers, a system of operators which license overrides of the type at issue here (cf. section 1.4).

As shown by the English translation of (1.22), the progressive provides a stative construal of an otherwise perfective predication. The function of the progressive is not, however, identical to that of imperfective aspectual marking in language like Latin. In such languages, as we noted with respect to the Latin example (1.2), imperfective aspect is used to denote situations which qualify as states according to an ontology of idealized situation types (i.e., Aktionsart classification). The progressive cannot ordinarily attach to stative predicates; such sentences as **Harry is hating cats* are generally ruled out. The anomaly of such examples suggests that the progressive construction serves to override the inherent perfectivity of that situation denoted by the participial complement. For example, while the sentence *Bill mended his sock is a perfective predication*, the sentence *Bill was mending his sock* is a stative predication. That the progressive sentence is stative is shown, for example, by the fact that it is not compatible with a cardinal count adverb: the sentence **Bill was mending his scok twice yesterday* is anomalous (cf. section 1.2.2.1). If we can view the function of the progressive as that of licensing a stative presentation of a situation which would otherwise require expression as a perfective predication (cf. Vlach 1981), the anomalous nature of progressivized statives can be attributed to the fact that application of

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the progressive in this case is simply redundant: there is no need to stativize an inherently stative predication (cf. Langacker 1987).

The circumstances under which states are in fact amenable to progressive aspect will be discussed in section 1.4 below. This discussion will also serve to demonstrate that the progressive has properties above and beyond those attributable to a 'simplex' stative predication (i.e, one which does not consist of an auxiliary head and participial complement). One property concerns the possibility of an inceptive interpretation akin to that attached to the state predication in text (1.17). Another property relates to the so-called 'imperfective paradox' (Dowty 1977, 1979). Solving this paradox entails associating the progressive with a "kind of modal interpretation". This interpretation involves a possible history in which the event portrayed in its 'in progress' state in fact reaches a point of culmination (Dowty 1986:44).

1.3. **Formal Theories of Aspect**

There are two insights common to the two leading paradigms in the model-theoretic account of the distinction between perfective and imperfective aspect. Following Herweg (1991a), I will refer to these paradigms as the propositional approach—identified with Bennett and Partee (1978), Dowty (1979) and Vlach (1981)—and the eventuality-based approach, identified, for example, with Parsons (1990) and Partee (1984). The former approach is based on the work of Prior (1967) and Rescher and Urquhart (1971). The latter approach takes it inspiration from the work of Davidson (1967). The first insight shared by these paradigms is the following: as noted earlier, the category labels *event* and *state* accrue to situation types rather than to verbs or verb classes *simpliciter*. Thus, as Dowty (1979) and Mourelatos (1981) have argued, one must consider the array of complements and adjuncts before determining the aspectual class membership of a given predicate. Thus, the verb *see* is properly classified as a state when the stimulus is nontransitory (*I see the mountains*), but is more aptly classified as an event (i.e., achievement predicate) when the stimulus is fleeting: *I saw a flash*. The latter claim is substantiated by the fact that the

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situation denoted cannot be reported by means of a present-tense predication. As noted in section 1.2.2.2 above, one hallmark of event predications is their inability to be used as present-tense reports (i.e., descriptions of situations ongoing at speech time). Adjuncts influence aspectual-class specification in such examples as *He remembered the answer in ten minutes*. The presence of the time-span adverbial *in ten minutes* induces an eventive construal of an otherwise stative predication. While the following sentence represents a state predication: *He remembered his Iowa boyhood very well*, the aforementioned sentence evokes a construal in which remembering is an event that took place after a ten-minute period had elapsed. (The event in question represents an achievement in the Dowty-Vendler classificatory schema.) Other commonly cited instances in which variable valence influences aspectual-class specification do not involve the event-state distinction *per se*, but the three perfective classes: activity, achievement and accomplishment. Thus, for example, the presence of a goal complement ensures that a sentence which is otherwise interpreted as an activity (*Harry walked*) is interpreted as an accomplishment (*Harry walked to the store*). Whether our examples involve the event-state split or the activity-accomplishment split, the point is much the same: aspectual classification algorithms, whether invoking the basic event-state distinction or the finer-grained Aktionsart classes, must serve to classify scenarios (formally, tenseless propositions), rather than verbs. Therefore, such algorithms must entail examination of verbal valence (cf. footnote 3).

1.3.1. Aspectual Markers as Sentential Operators

The second insight, closely related to the first, concerns the nature of aspectual markers like progressive, perfect, inceptive and so on. These operators are held to be analogous to tense operators, insofar as they take full propositions as arguments. [12] That

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[12] The use made of operators like Perf(ect) and Prog(ressive) in eventuality-based theories is somewhat different from that found in propositional approaches. Parsons (1990) views these operators as contributing a 'function symbol' to the logical form. Thus, for example, *Perf* contributes the symbol 'r', where r (e) stands for the resultant state of e.

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is, such operators have sentential scope, irrespective of the position occupied by their morphosyntactic manifestations within the verbal syntagm (cf. Fleischman 1983). Thus, for example, Heny (1982) and Richards (1982) analyze such perfect sentences as *Harry has finished* as a context-free past-tense proposition scoped by the operator *have*:

(1.23) Pres $_{(w,i)}$ [Have [λwλi Past $_{(w,i)}$ (Harry finish)]]

In (1.23), the context variables of the past-tense operator have been abstracted via lambda abstraction. As a result, the tense within the scope of the perfect operator *have* is context free, while that immediately scoping *have* is context sensitive. The present-tense specification of the latter ensures that the entire proposition is evaluated for the present interval. Aspectually, the present-tense proposition is stative. The state is a state of aftermath following the event of Harry's finishing. With respect to English syntax, this analysis coheres with the raising analysis of the auxiliaries perfect *have* and progressive *be*. The validity of this analysis is confirmed by the fact that these aspectual constructions welcome semantically null subjects (as in, e.g., *It has rained*). The raising analysis forms the basis of the Construction Grammar schemata to be provided here.

The idea behind semantic analyses of the type advocated by Heny and Richards is that aspectual operators like the perfect serve to assert the existence of some state of affairs relative to a given interval—an interval which is distinct from (i.e., later than) the time at which the event denoted by the participial complement occurred. This type of analysis is complementary to that advocated by Hoepelman and Rohrer (1981) and Smith (1992), in which perfect-form sentences serve to assert that some property holds of the subject-denotatum (e.g., the property of 'having left' in the case of *Harry has left*). As McCawley (1971) argues, however, such a conception of the perfect will lead to an analysis in which, counter to our intuitions, such sentences as *The police have arrested my wife* serve to predicate a property of the police (rather than, say, a property of the incarcerated wife).

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What is suggested by the raising analysis of the perfect is that the semantic feature discerned by Smith and others is not only an unreliable concomitant of perfect semantics but also an epiphenomenal one. The subject property in question is akin to that evoked by such raising sentences as *Harry is likely to leave*. The property of being likely to leave (or perhaps, more accurately, being willing to leave) is attributed to Harry by virtue of his serving as subject-denotatum in a subject-predicate construction. (Here, we consider only subject-predicate constructions having semantically nonnull subjects.)

Admittedly, it is difficult to posit a semantics for the subject-predicate construction which succeeds in abstracting over the various information-structure articulations which might be imposed upon that template (cf. Halliday 1990, Lambrecht forthcoming). Thus, for example, the perfect-form sentence *Harry has left* can be contrued as a narrow-focus assertion, insofar as this sentence might serve as a response to the question *Who has left?* (The subject will accordingly represent a point of prosodic prominence.) Alternatively, this sentence might respresent a predicate-focus assertion or (equivalently) a topic-comment sentence. (The tonic accent will in this case fall upon *left*, the last accentable constituent within the VP focus-domain.) What semantic content can one distill from the various information structures which can be associated with the subject-predicate construction? The common semantic denominator of all uses involves property attribution. Aspectual constructions like the perfect bear this semantic feature only insofar as they inherit syntactic and semantic properties associated with the subject-predicate construction (cf. Goldberg 1992 and Lakoff 1987 on the representation of 'family resemblances' among construction types within the Construction Grammar framework).

1.3.2. Two Formal Models of the Event-State Distinction

We have established that markers of phase relations can be represented as operators upon tenseless propositions (operators which themselves will lie within the scope of tense operators). We might now investigate the manner in which operators are used to reconstruct aspectual categories having no direct morphosyntactic realization in English: the

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classes state and event, and subdistinctions thereof (e.g., the distinction between events characterizable as achievements and those characterizable as accomplishments in the Dowty-Vendler paradigm).

Dowty (1979) suggests that one can derive the nonstative Aktionsart classes *activity*, *accomplishment* and *achievement* from the state class, by means of operators DO, CAUSE and BECOME, respectively. The BECOME operator scopes a state predication, serving to derive an inchoative event (achievement): while **be-dead'** is a state, BECOME [**be-dead'**] is an achievement (*die*). The operator CAUSE is viewed as a sentential connective, indicating a relation between two events. This operator scopes a predication representing an inchoative event; the CAUSE operator thereby links a inchoative event to an anterior (causal) activity. The activity consists of a stative predicate within the scope of the operator DO. This operator supplies the notion of agency. Thus, the decomposition of *Harry killed the fly* is as follows: [DO [Harry **hit'**]] CAUSE [BECOME fly [**be-dead'**]]. The validity of this type of decomposition system is somewhat suspect, as noted by Dowty himself. Firstly, the treatment of activities as higher-order entities is highly questionable. As Foley and Van Valin argue (1984:38), "[i]t is difficult to imagine...what kind of truly stative verb would underlie verbs like *roll*, *fall*, *run*, and *walk*; the obvious candidate, something like **be-in-motion'** is a rather suspicious stative predicate". Additionally, as noted in footnote 22, accomplishment predicates are not necessarily causatives. In the decomposition of intransitive motion verbs like *go*, wherein the agentive trajector of the motion activity is identified with the theme of the locative state, the causation is necessarily reflexive. It seems reasonable to equate agentive action with causal action. However, Dowty himself recognizes such nonagentive verbs as *melt* and *dissolve* as accomplishments. In such cases, we would be forced to claim that the ice, etc. is causing itself to reach a melted state. In later work, Dowty appears to abandon the early system of lexical decomposition, instead reconstructing the Aktionsart classes in terms of truth conditions upon tenseless propositions, given in the style of traditional tense logic (see below).

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Avoiding derivation via lexical decomposition, a number of other formal theorists have simply assumed an ontology in which events and states are distinct, nonderived 'entities'. Certain analysts have sought to capture the distinction between events and states by invoking the fact that the two types of situations have distinct patterns of disposition within the temporal intervals for which they are asserted to obtain or occur. Parsons (1990) represents the event-state distinction by positing two distinct temporal operators: *Hold* and *Culminate*. These operators denote the distinct means by which the situation in question (event or state) is related to its time of occurrence—the reference interval R. What are these distinct relations? In section 1.2.2.4 above, we adopted Partee's (1984) claim that the interpretive ramifications of the event-state distinction can be represented as distinct relations of inclusion obtaining between the denoted situation (event or state) and the evoked reference time. An event is subsumed by the reference interval: the event culminates within that interval. A state, by contrast, properly contains the reference interval.

This difference in 'direction of inclusion' captures the distinct patterns of inference licensed by the two aspectual classes. From the fact that the state obtains at R, we cannot determine whether that state is entirely contained within the reference interval or whether that state 'overflows' the boundaries of R (cf. discussion of example (1.20) in section 1.2.2.4 above). By contrast, from the fact that an event culminates within R, we can determine that the time of occurrence of the event is 'exhausted' by R: if we know that Marv fixed the car yesterday we also know that this particular situation is wholly contained within the boundaries of the interval identified as 'yesterday'. Event and state predications, which are represented within the propositional approach as tenseless propositions, are here represented as existentially quantified variables, *e* and *s* (the individuals *event* and *state*). The operators *Culminate* and *Hold* relate the respective variables *e* and *s* to a particular time. The time itself is introduced by means of an existential quantifier. That time is related to the time of speech (ts) by means of a (two-place) tense operator like *Past*. Thus, for

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example, the pefective sentence (1.24) receives the logical paraphrase (1.25). The imperfective sentence (1.26) receives the logical paraphrase (1.27):

(1.24) Harry died.

(1.25) ∃t ∃e [Harry die' (e) & Culminate (e, t) & Past (t, ts)]

(1.26) Harry was outside.

(1.27) ∃t ∃s [Harry-be-outside' (s) & Hold (s, t) & Past (t, ts)]

As mentioned, the time introduced by the existential variable in (1.25) cannot be equated with the reference time. Instead, this time is properly included within R. That is, the time at which the event of Harry's dying culminated is a subinterval of the overall interval in which the dying event occurred. In (1.27), we achieve the same result whether the existentially-quantified time is viewed as properly included within R or identified with R: the reference time is subsumed by the state. The formulae given above do not mention reference time. Parsons intends that R should be invoked in assigning an interpretation to the tense operator, particularly *Past*:

> ...context limits the interpretation of the past-tense operator to apply only to certain relevant parts of the past. This is an important phenomenon in the pragmatics of language use, but it affects the interpretation of our logical forms, not the forms themselves. The 'PAST' operator should be read 'for some relevant time in the past'. (1990:29)

Thus, according to Parsons, the discourse-pragmatic features of the past-tense operator will impose the appropriate interpretation upon the existentially quantified interval.

In Parsons' model, an example of the eventuality-based approach, the universe of discourse contains not only a set of times, but also a domain of eventualities. The latter

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contains two types of individuals: events and states. As Herweg argues (1991a), treating states as individuals creates certain difficulties. As we saw in section 1.2.2.1, states, unlike events, are not countable. That is, state predications like *My dress be- purple* are not compataible with cardinal count adverbs like *three times*. The sentence **My dress was purple three times last week* is anomalous. As noted, this fact is a consequence of two properties associated with states. First, states have the property of distributivity, and are therefore infinitely divisible into homogeneous 'subepisodes'. Second, states have the property of cumulativity, and are therefore not readily circumscribed; reference time does not necessarily exhaust the tenure of a state. (Indivisibility and boundedness were said to be requisites for separability—itself a prequisite for countability.)

How can an eventuality-based model account for the fact that states are not enumerable? The solution to this problem has already been mentioned: one can allow the two aspectual classes to determine the manner in which the situation described is related to reference time. The differences in 'direction of inclusion' vis-à-vis R are encoded in the operators *Hold* and *Culminate*. Under this model, the fact that states are not countable stems from the properties of cumulativity and distributivity: a state located at a reference interval can be viewed as holding for some larger period, which subsumes R. [13] Therefore, the state cannot be circumscribed, i.e., individuated. An event predication is circumscribed insofar

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[13] Herweg 1991b argues that direction of inclusion is not sufficient to account for the enumerability facts. His argument is based upon what he refers to as the questionable generalizability of the notion of reference time. The argument is not particularly cogent. Herweg argues that the DRT conception of reference time is limited to a particular type of narrative text—that in which the reference time 'advances' in the course of the narration (cf. Dowty 1986 and Partee 1984). While it is true that DRT aspectology is largely based upon such texts, this fact does not undermine the validity of positing a reference time associated with (most) past-tense predications, whether or not these occur in the context of a narrative of a particular type. (Cf. Heny 1982 and Richards 1982 for a discussion of past-tense examples like *Marius never capitulated to the senate*, in which the past tense has the force of existential quantification over a large interval.)

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as it is wholly contained within R. Because it is bounded and has a heterogeneous part structure, an event is an individual. Event tokens are therefore countable. It is, however, important to recall at this juncture the observation that while states *per se* are not enumerable, quantities of states, or *state phases*, are. Thus, the sentence *Madge was ill several times last month* is acceptable insofar as it is interpretable as invoking episodes of illness, i.e., phases in which the state in question held, necessarily interspersed with phases at which the state in question did not hold. In section 1.2.2.1, it was argued, in accordance with Herweg (1991a, 199ab), that state-phase predications represent event predications. This characterization of state phases (or, equivalently, 'episodes of stasis') will prove relevant in our discussion of so-called perfectivizing operators, to take place in section 1.3.3.2.

The eventuality-based approach differs from the propositional approach in that the former has a somewhat richer inventory of atomic elements. In the latter approach, neither events nor states are primitives. Events and states are analyzed as "higher-order entities"—tenseless propositions that are true or false at given times of evaluation (Dowty 1977). This analysis amounts to treating states and events as properties of intervals of time. Herweg notes:

> The aspectual distinction between state radicals and event radicals is captured by means of characteristic inheritance properties of the respective propositions with regard to their truth intervals, i.e., state propositions and event-type propositions differ in how the respective property of times is passed on from an interval to its subintervals. (1991a:375)

Thus, for example, a state predication predicated of an interval *t*, e.g., *The sky be-blue'* (t), can also be predicated of a subinterval *t'* of *t*::*The sky be- blue'* (t'). If the sky was blue yesterday, it was also blue at noon, e.g. The aspectual classes state and event are

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then described as distinct sets of truth conditions upon tenseless propositions. For example, a (tenseless) proposition is stative if it follows from the truth of that proposition at an interval I that the proposition is also true at all subintervals of I. States are accordingly referred to as *subinterval verbs* (Bennett and Partee 1978). By contrast, event propositions have the 'antisubinterval property': if an interval *I* is a truth interval for an event-type proposition, no subinterval of *I* is also a truth interval for that proposition.

A number of analysts working within the propositional approach avoid providing general truth conditions for (tenseless) event propositions. Dowty (1986) provides distinct truth conditions for each Aktionsart class (cf. section 1.4). One problematic class is the class of activity verbs. As mentioned in section 1.2.1, activity verbs partake of both eventive and stative properties. While activities have the subinterval property, this property manifests differently here than in the case of states. Note Dowty's definition of activities:

> A sentence ϕ is an activity [...] iff it follows from the truth of ϕ at an interval *I* that ϕ is true at all subintervals of *I* down to a certain limit in size (e.g., if John walked from 1:00 until 2:00 PM, then most subintervals of this time are times at which John walked; *walk* is an activity.) (1986:42)

Dowty's definition accounts for the properties of heterogeneous activities. As we noted in section 1.2.1 above, certain activities, like walking, are cyclic: they subsume a number of repeated subepisodes (e.g., lifting a foot off the ground). These activities therefore represent situations which evolve over time. They cannot be said to be fully instantiated at the moment of speech. A foot suspended in the air does not constitute an instance of walking. Therefore, such activity predicates are not compatible with simple present-tense inflection in English, unless the resulting predication is interpreted as a historical present or expression of habitual activity. The sentence *Jim walks* cannot be used to report upon a situation ongoing at the time of speech.

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Internally homogeneous activities like wearing a sweater or sleeping also take time: they are viewed as phases, i.e., situations of limited duration. One wears a given article of clothing or sleeps for a certain period. The occurrence of an activity phase can only be reported once that activity has ceased; a phase cannot be fully instantiated at the time of speech. We noted in section 1.2.2.2, in accordance with Smith (1991), that the time of speech is conventionally conceived of as a moment or instant. Since a phase or episode of stasis can only be instantiated with the passage of time, such a phase cannot be said to be instantiated at a single moment alone. As we noted in section 1.2, homogeneous activities, like heterogeneous activities, qualify as events, insofar as these follow a course of development through time. *Telic* events—accomplishments and achievements—are simply defined as lacking the subinterval property. Dowty states:

> A sentence is an accomplishment/achievement...iff it follow from the truth of ϕ at an interval I that ϕ is false at all subintervals of I. (E.g. if John built a house in exactly the interval from September 1 until June 1, then it is false that he built a house in any subinterval of this interval: *build a house* is an accomplishment/achievement.) (ibid)

(Dowty distinguishes between accomplishments and achievements by positing the existence of subevents in the case of the former, but not the latter. This distinction will be discussed in section 1.4 below.)

The propositional approach is appealingly economical, in that it reduces the inventory of primitive notions needed to account for the event-state distinction. The propositional account is based upon two assumptions: (a) a sentence is true with respect to an interval of time and (b) the truth of a sentence at a given interval I is not dependent upon the truth of that sentence at any subinterval of I. Herweg demonstrates, however, that the propositional model is somewhat impoverished: it does not give an adequate account of event

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predications. To see this, let us examine the manner in which this account portrays accomplishments. Vlach describes accomplishments in the following fashion:

> an accomplishment sentence asserts that an event of a certain kind takes place, and the tenseless accomplishment sentence is true at the interval when the event begins and ends when it ends. (1981:277)

The general idea here is that the instantiation of an accomplishment over time can be identified with a set of times at which a tenseless proposition is true. The proposition is the represents the event denoted by the predication in question. What does this mean? Herweg argues that:

> the notion of occurrence of an event could at best be reconstructed by a proposition stating that the event is in progress and will come to an end, the latter clause making the telicity of the situation explicit. The event would then consist in the proposition's being true for a while. (1991a:377)

But this conception of events creates a paradox: the proposition which denotes the event has the subinterval (distributivity) property. All times in which an event is in progress are times for which that event is in progress. Hence, as Herweg argues, this mode of analysis reduces event predications to state predications, and one thereby loses the ability to account for grammatical and inferential reflexes of the event-state distinction. [14]

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[14] It should be noted that certain facts held to substantiate the eventuality-based approach do not actually impeach the proposition-based approach. Partee (1991), for example, observes the following contrast in a discussion of determiner-quantification over events:

(a) Every woman who sees a dog calls the police.

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In this respect, the eventuality-based approach, which treats events as 'situational individuals', is to be preferred to the propositional approach. Herweg, however, suggests that the ideal formal account is one which integrates the two approaches. In the integrated account described by Herweg, the universe of entities consists of two type of individuals: periods of time, represented by the variable *t*, and events, represented by the variable *e*. This account captures the insight, decribed in section 1.2.2.1., that events are (enumerable) individuals, while states are not. Herweg suggests that we can avoid positing an entity *s* (state) by treating states as higher-order entities, i.e., as properties of the times at which they hold: *S (t)*. We can avoid the unintentional attribution of stative properties (e.g., cumulativity) to event predications by treating events not as state of affairs which characterize a given period of time, but as individuals—which happen to be anchored to a particular temporal location. This treatment reflects the fact that events are both temporally bounded and temporally indivisible, insofar as no subset or superset of the times within which an event occured are times at which that event occurred.

Let us now proceed to a detailed examination of the main components of Herweg's integrated analysis, which will be adopted here. As noted, the treatment of events as individuals entails positing an *event variable e*, as in Parsons' treatment of event sentences.

(b) Every woman who owns a dog calls the police.

She notes that (b), unlike (a), does not have a reading in which the temporal variable over police-calling events is co-bound with that introduced temporal variable by the first clause. She therefore argues that episodic predications introduce an event variable subject to universal quantification, whereas state predications do not. She points out that "owning does not provide a temporal anchor for the telephoning". However, this fact can be attributed merely to the temporal ill-foundedness of state predications. Since, via cumulativity and distributivity, a state predication can obtain at an interval larger than that of which it is predicated, a state predication is not associated with a definite time of 'occurrence'. This analysis accounts for the failure of state predications to provide 'temporal anchors' for concomitant events in sentences like (b). Events do have a definite time of occurrence. Therefore, whether they are treated as event variables or not, they do provide such an anchor.

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This variable will occur within the scope of an *existential quantifier*. An *event-type predicate* predicated of the existentially bound event variable will be used to represent the intuition that the event denoted by a given predication instantiates a particular event type. The event-type predicate is a *tenseless proposition*. Thus, for example, the event of Irving's rolling up the rug will be represented as: *Irving roll up- the rug' (e)*. The binding of the event variable by an existential quantifier represents the fact that a tensed event-predication evokes a particular token of the event type in question. Thus, the tensed sentence *Irving rolled up the rug* is represented (in part) as the formula: ∃e: *Irving roll up- the rug' (e)*.

As we observed in section 1.2.2.1, the application of a categorizing predicate to an existentially bound variable here is analogous to the use of a categorizing predicate to represent a referring expression denoting a token of a *spatially* defined individual, e.g., a cup. The indefinite NP *a cup*, when used as a referring expression (e.g., as in *He picked up a cup*), is represented by means of the formula: ∃i:*Cup' (i)* (where *i* stands for 'individual'). As was established in section 1.2.2.1, this analysis enables us to describe the enumerability of events in much the same way that we might describe the enumerability of other countable entities, e.g., cups or shirts. To count entities (e.g., to assert that there are three cups or three past instances in which Irving rolled up the rug) is to enumerate the applications of the categorizing predicate to a set of entities confined to some region, whether this 'region' is a spatial expanse (e.g., the cupboard) or a temporal expanse (e.g., last month).

Thus far, we have said little about temporal individuals. As noted, we will follow Parsons in representing the time at which an event occurred or a state obtained by means of an existentially quantified temporal variable: ∃t. This treatment captures the intuition that tensed predications evoke a *particular time* belonging to the ordered set of times which underlies the history jointly accessed by speaker and addressee. A tensed predication can be said to *refer* to this time (or perhaps, more accurately, to *evoke* this time). The treatment of

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times as individuals to which tenses refer will have important ramifications for the treatment of past-tense temporal reference to be outlined in section 4.1. There, we will presume that a past interval can be characterized as an entity for which a *shared representation* may exist in the minds of speaker and hearer. The presence of this shared representation renders the entity in question *identifiable*, in much that same way that nominally denoted referents (e.g., the dust mop) may be said to be mutually identifiable for the interlocutors (cf. Lambrecht forthcoming). In the case of past-tense reference, identifiability of the past interval arises from the ability of the interlocutors to locate this interval within the ordered set of past times within history. The presumption that a past time may be an identifiable referent invokes the possibility that this time can also be characterized with respect to its activation status—whether the time represented is or is not at the forefront of the shared consciousness of speaker and addressee (cf. Chafe 1987, Lambrecht forthcoming). Under the account to be offered in section 4.1., the particular "relevant portion of the past" said by Parsons to be invoked by a past-tense predication, is viewed as an *active* past interval. In short, the treatment of times as referents evoked by tensed predications allows for a treatment of tense specification in which the two cognitive statuses *identifiable* and *active*, invoked by Lambrecht (forthcoming) with respect to the mental representation of nominal referents, are also applicable to past-time temporal reference.

In accordance with Parsons, we will relate event entities to their times of occurrence by means of the bivalent operator *Culminate*: *Culminate* (e,t). The time of culmination itself will be related to the time of speech by means of a tense operator like *Past* (cf. example 1.25)). This operator will also be used to anchor one time (i.e., the 'relevant time') at which a state obtains to the time of speech. As mentioned, the discourse-pragmatic conditions upon the variety of past-time reference invoked by the *Past* operator will be the focus of section 4.1.

1.3.3. **Formal Models of Phasal Aspect**

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Adoption of the foregoing account of the event-state distinction will affect our treatment of the phasal aspects—e.g., perfect and progressive—as well as our treatment of bounding adverbials like *for two hours*. As we will see in section 1.4., these aspectual constructs are used to effect perspectival shifts within the domain of eventualities (states and events). That is, these constructs enable the narrator to override the default aspectual categorization of a given situation (cf. section 1.2.2.4). Within the eventuality-based approach, all such constructs represent bivalent operators. These operators map event predications into state predications and *vice versa*. The framework invoked here is that outlined in Herweg 1991a, 1991b.

1.3.3.1. *Stativizing operators*. The phasal aspects are individually defined as operators deriving an event or state of a particular type, which obtains or occurs at a given time, from an 'input' situation which happens or goes on at a distinct time. [15] In the case of phasal aspects, the input situation is equated with the inherent aspectual class (i.e., Aktionsart) of the VP-complement denotatum. Thus, for example, as mentioned in section 1.1., the perfect construction (e.g., *Madge has swallowed a fly*) can be represented as an operator which maps an event predication true at one time (*Madge swallow- the fly*) into a stative predication true at a later time. The state predication is describable as the aftermath of the fly-swallowing event. The 'derivations' associated with the class of stativizing operators are represented as postulates containing implicational statements. As an illustration, let us examine the manner in which Herweg represents the progressive. Herweg describes the progressive operator by defining a relation PROG (progressive) between events and times:

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[15] In this study, I will represent the phasal aspects as grammatical constructions, in accordance with the Construction Grammar model developed by Fillmore and Kay (1991). Since Construction Grammar is a monstratal theory, the process model evoked by the treatment of phasal aspects as derivations (e.g., 'progressivization') will be eschewed in favor of the following approach: the phasal aspects represent grammatical constructions containing semantic specifications in which the time of situation denoted by the auxiliary head is identified with the appropriate phase of the event or state denoted by the VP complement.

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(1.28) [D. PROG] For all events e and periods of time t:

$$\text{PROG}(e,t) =_{def} \tau(e) \supset t$$

This definition states that the time period evoked by the progressive construction is a time that is properly included within the time at which the overall event occurs. This definition targets a temporal subphase associated with an event *e*. This phase is the set of times which are properly included in τ (e) (the time of the event). The progressive operator itself is represented as an implicational statement: for every event, there is a corresponding 'progressive state'. This state is represented as a property of the interval during which it obtains (as per the representation of state predications described above). Thus, the progressive-state radical (tenseless state proposition) shown in (1.29) is represented as in (1.30):

(1.29) Peter be- riding his bike to the seaside.

(1.30) $\lambda t \exists e$ (PETER-RIDE-HIS-BIKE-TO-THE-SEASIDE (e) & PROG (e,t))

For a given event (e.g., a particular bicycle ride), there is a state that holds prior to the time at which that that event has reached its point of culmination. This state is the progressive state. [16] Herweg argues that the progressive-state predicate PROG (e,t)

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[16] This analysis suggests that the stativity of the progressive arises from the fact that the progressive delimits a single component moment or 'snapshot' of the reference event. This type of analysis does not square with speakers' intuitions. Most would report that a sentence like *Harry is fixing the car* denotes a dynamic situation rather than a state. This fact highlights the limitations of that view in which the aspectual category denoted by a given phasal aspect is equated with the aspectual class that is *a priori* attributable to some temporal chunk of the 'objective situation'. This view overlooks the fact that aspectual categorization is a product of speaker construal, rather than any 'physical attribute' of the relevant situation. The progressive is paradoxical: the event-internal interval 'selected' by the progressive is not a state, but the

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"show[s] a richer internal structure than simple state expressions" (1991b:992). That is, we can define a 'progressive state' only by reference to an overarching event which subsumes that state. This is akin to saying that each phasal construct evokes, in addition to the denoted situation, a reference situation: that situation whose 'degree of development' the phasal construct denotes. Let us refer to the reference situation as the *R-situation*, the denoted situation as the *D-situation*. The aspectual class of the R-situation is distinct from that of the D-situation—the 'foregrounded' phase. A rough spatial analog for this situation is found in the grammatical realm of portion extraction (cf. Talmy 1988). We can say that the individuated entity denoted by the partitive construct *a drop of cream* is not simply a countable entity, but one defined with respect to a 'backgrounded' (nonindividuated) entity. Herweg argues that the complex semantic structure of the progressive is directly reflected in its morphosyntactic composition:

> The progressive aspect in general is expressed by means of periphrastic constructions. In these, the participle plus its syntactic arguments provides the event-type predicate, whereas the auxiliary corresponds to the homogeneous predicate about times. (1991b:992)

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progressive itself denotes a state. Langacker (1991) suggests that the stativity of the progressive arises from the level of granularity at which the relevant portion of the reference situation is viewed. (The relevant portion is taken to be the reference event minus its endpoints.) He states (p. 210), "the profiled states [of the reference event] are construed at a level of schematicity which renders them equivalent". That is, objectively speaking, the stretch of action highlighted by the progressive is not a state, but the speaker *views* it as internally homogeneous. In a recent paper, Langacker (forthcoming) suggests the following visual analogy: the viewpoint expressed by the progressive is similar to that one takes when viewing a object (say, a cow) 'up close'. When nuzzling a cow, one sees only a blurry expanse of cowhide; discernment of the overall bovine configuration is possible only upon stepping back from the cow. Applying this scenario to the progressive aspect, we can say that focus upon a proper portion of the overall event implies that the heterogeneous internal structure of that portion is 'blurred'.

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That is, the stativity of the progressive-headed VP derives from the aspectual-class specification of the finite auxiliary *be*. The syntax of portion extraction provides an analogy: in the case of such partitives as *a cup of lard*, the overall construct counts as a count noun, while the NP representing the complement of the preposition *of* denotes a mass noun. The count specification associated with the construct at the highest level of constituency is that attached to the nominal head. One can, however, object to this compositional analysis by noting, for example, that the gerund *simplicter* exhibits the stative character associated with the progressive VP: note participial relatives like *the man* ***working out in the yard*** and prenominal gerundial adjectives like ***running*** *water*. Here, however, the stativity of the construct is that attributable to (nonfinite) participial constructs in general. Langacker argues (1987, 1991) that each such construct designates an atemporal relation—a situation which is not 'scanned sequentially' during the course of its evolution through 'conceived time'. The lack of dynamism intrinsic to such constructs ensures that they are construed as states (cf. section 1.2.1 on the atemporal nature of states). Nevertheless, we have reason to presume that the gerundial element, when it represents a VP complement within the progressive construction, designates a perfective situation—not only by virtue of the perfective Aktionsart of the gerundial stem. Instances of constructional accommodation, to be explored in section 2.2.2, indicate that the VP-complement denotatum is necessarily interpreted as a dynamic (i.e., perfective) situation. To prefigure that discussion somewhat, we can observe here that in sentences like *Ray is believing your explanation*, what is otherwise construed as a stative predication (*Ray believes your explanation*) receives an activity interpretation: Ray's belief in the explanation is a state susceptible to change. That is, the situation denoted by the participial VP is a temporary or bounded state (i.e., a homogeneous activity).

Since we have evidence that the gerundial complement called for by the progressive construction necessarily represents a perfective situation, we can regard the gerundial suffix

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-ing not as an indicator of stativity but as a marker of the status of the complement VP as syntactic dependent in this particular configuration. That is, there seems to be no harm in presuming that this suffix appears by virtue of a morphological feature-assignment rule similar to that proposed by Gazdar, Pullum and Sag (1982).

Similar observations can be made with respect to the perfect construction. Herweg analyzes the perfect as a stativizing operator akin to the progressive, although he does not define the former operator precisely. The analysis that he provides suggests that the perfect is parallel to the prospective operator (*Pros*), the latter of which is represented in English by the copular construction *be about to* and the periphrastic ('gonna') future. Herweg notes:

> *Perf* and *Pros* are [...] imperfective aspectual operators, as both map event radicals onto stative propositions, *PerfE* being the state that consists of an event of type *E* having occurred, and *ProsE* being that state that consists of an event of type *E* going to occur. (1991a:390)

Again, with respect to the perfect, one can argue that the stativity of the overall construct is not solely a function of the stativity of the auxiliary head. Perfect participles used adjectivally are stative as well: e.g., ***the broken branches***, etc. Langacker notes that such participles "designate the final state in an overall process" (1987:221). However, there is reason to believe that the adjectival past-participle represents a construction distinct from that which sanction the past-participial complement appearing in the perfect construction. The former, unlike the latter, rejects verb stems which do encode changes of location: note **The arrived doctor* as against *The doctor has arrived*. Let us maintain, then, that the stative situtation denoted by the perfect construction is overtly designated by the auxiliary head. The participial complement necessarily denotes a perfective situation, as evidenced by instances of constructional accommodation (cf. section 2.2 of the following chapter).

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1.3.3.2. *Perfectivizing operators*. Herweg posits a number of perfectivizing aspectual operators. These map state predications into event predications. Among these operators are the inceptive and terminative aspects, which map a stative proposition onto an event predication which evokes a time of occurrence equated with that of the inceptive (or terminative) phase of a particular state. This state is denoted by the VP complement. For each inceptive or terminative phase, there is exactly one inceptive or terminative event. Events of this type belong to the class of expressions which encode changes of state. These expressions "mark the transition from a phase of a particular state (the source state of the event) to a later phase of the opposite state (the target state of the event) (Herweg 1991b:997). Thus, for example, the sentence *Bill fell asleep* encodes a transition from a waking state to a subsequent somnolent state; the reverse is true of sentences like *Bill woke up*. In the case of the inceptive construction, for example, the 'target state' is that state denoted by the VP complement, while the 'source state' is identified with the complement of that state. Thus, in the sentence *It started to look cloudy*, cloudiness is the target state, while lack of cloudiness is the source state. Herweg's definitions of the inceptive and terminative operators hinge upon a definition that delineates the beginning or ending phase of that state denoted by the particular VP-complement. These phases are defined as points which separates two temporally adjacent complementary states, where a specific ordering is imposed upon the two complementary states. In the case of the inceptive, for example, the time of the inceptive event is identified with that point which separates that state which satisfies the VP complement from that state which does not. In providing a semantic representation of inceptive sentences like *Harry started to feel sick*, we must, according to Herweg, locate the inceptive event at that point which lies between the phase in which Harry feels healthy and the phase in which Harry feels ill. I refer the reader to Herweg (1991b) for a detailed discussion of the formal representation of inceptive and terminative aspects.

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1.3.3.3. *Durational adverbs and individuation.* It is important to note that certain perfectivizing operators are not linguistically manifested as phasal aspects. One such operator, which will prove significant in our analysis of the perfect, is the durational adverbial (e.g., *for ten minutes*). The manner in which such adverbials function to 'individuate' states was discussed in section 1.2.2.1. This section will briefly describe the formal representation of this individuating function.

According to Herweg, there is a perfectivizing operator which maps a state onto "that type of event which consists in the occurrence of a phase of the state" (1991b:993). He refers to this operator as the 'pofective operator'. This label evokes the Russian delimitative prefix *po-*. Herweg defines for each state phase a corresponding 'pofective' event type. The time of the pofective event is the interval for which the state phase holds. A state phase is defined as follows: "a period t is a phase of a state S just in case S holds at t and t is not properly included in a period t'' at which S holds as well" (op. cit.:992). That is, a state phase is a period at which a state holds 'for just a while'. The time at which the pofective event culminates is the time at which the state phase terminates.

One problem with Herweg's definition of state phase is the following: state-phase predicates accompanied by a durational expression are demonstrably upward compatible. Thus, for example, sentences like *Harry was sick for at least a week* evoke the likelihood that the period during which Harry was ill in fact exceeded a week's time. (Of course, in the absence of *at least*, upward compatibility would tend to be obviated by the upper-bounding effect of quantity implicature (cf. Horn 1989).) This observation illustrates again the need to incorporate speaker perspective into our descriptions of aspectual phenomena. Herweg's definition of state phase entails that the state cannot obtain for times other than those for which it is asserted to obtain. However, we know that speakers may highlight phases of a state that are in fact properly included within some larger period during which that state holds as well. What is crucial to the definition of a state phase, it would seem, is that portion of that state which the speaker chooses to highlight. This concept, of course, is

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difficult to incorporate into a logical definition, but we might amend Herweg's informal definition in the following fashion: 'a state phase is a period during which a state holds, where any period properly including that period is outside the speaker's immediate focus of attention'. To illustrate this phenomenon, we can note the following context: an individual must reside outside of California for six months of a given year in order to avoid filing a state income tax return there. Given this knowledge, a speaker may report: *I lived outside of California for six months last year*, when in fact he lived outside of California for eight months. Since the two months beyond the period in question are irrelevant with respect to the purpose of his assertion, the state-phase property is predicated of a six-month period alone. [17] In what follows, we will speak generally of state phases or state-phase (pofective) events and their times of culmination, while keeping in mind that the 'time of culmination' may simply be the time beyond which the speaker, for whatever reason, does not wish to vouch for the continued presence of the state.

The durational adverb is represented as a function which assigns a specific duration to the pofective event. [18] It is important to note, however, that the presence of the durational adverb is not a necessary prerequisite for the delimitative interpretation of a state. As noted

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[17] Such examples illustrate the dialectic nature of the interaction between Q- and R-based implicature, described by Horn (1984). One the one hand, the speaker feels duty bound to provide as much information as possible; on the other hand, the speaker does not wish to give information that would be considered excessive (and thereby irrelevant) in the context at hand.

[18] The function used by Herweg to represent the semantic contribution of durational adverbs is *Qu*, which assigns an amount of units to a period of time. Thus, the durational adverb *for two days* is represented in (a) (T=a variable over state predicates and τ=the unique time of occurrence of e):

(a) $\lambda T \lambda e(PO(T)(e) \& Qu(\tau(e))) \supseteq$ two days

Roughly, this formula states that there exists an event characterizable as a state phase or 'pofective event', and that the duration assigned to this event is included within a two-day period. The pofective event may then outlast this period. This analysis accounts for the upward compatibiliy of durational adverbs.

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in section 1.2.2.1, a state may be implicitly bounded (cf. sentence (1.6)). Such implicit bounding was said to be analogous to the 'noncompositional' bounding of masses in expressions like *two soups*. A 'portion' interpretation is invoked despite the fact that partitive syntax is absent.

The foregoing analysis of state phases will prove significant in our analysis of the continuative perfect, exemplified in (1.31):

(1.31) Harry has been ill for three weeks.

Given an analysis in which state phases like *be ill for three weeks* represent events, we preserve the assumption that the perfect functions to relate an event predication to a (stative) phase of aftermath. In the case of (1.31), the phase of aftermath is the point at which the state phase ceases or, rather, the point at which continuance of that state is of no particular consequence in the context at hand.

1.3.3.4. *Propositional accounts of phasal aspect.* It should be noted that there is an alternative formal conception of phasal aspect which does not make crucial reference to the primitive *event* . These accounts reflect the propositional model of aspect, insofar as events are treated as properties of temporal intervals. Phasal aspects are represented as operators evoking relations among such intervals. Intervals are defined as

> contiguous sections of time having duration as well as position on a time line such that one interval can be before another, overlap with another or be contained within another. (Dinsmore 1991:211)

Dinsmore analyzes phasal aspects in terms of several simple relations between phases. These relations are given in (1.32). The time of the D-situation is T1, while that of the R-situation is T2:

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(1.32) (during): If T1 is contained within T2, then we write T1 **during** T2.
(begins): If T1 and T2 begin at the same point, but T2 ends after T1, we write T1 **begins** T2
(finishes): If T2 begins before T1, but both end at the same point, we write T1 **finishes** T2.
(<): If T1 is entirely before T2 we write T1<T2 [19]

The phasal aspects—progressive, inceptive, terminative, prospective and perfect—are then expressed as mappings from a proposition true at one time interval to a proposition true at some other time interval. Thus, for example, perfect and progressive are represented as follows:

(1.33) (Perf): at time T: **P has occurred** iff for some time T1: P and T1<T
(Prog): at time T: **P is occurring** iff for some time T1: P and T during T1

A similar approach is adopted by Galton (1987), who treats events as pairs of sets of times <*B*, *A*>. Set *B* is the set of times before the event; *A* the set of times after the event. Thus, *PerfE* is true at time *t* just in case *t* is a member of the set *A* of times following the event. *ProgE* is true at *t* just in case *t* is a member of the intersection of the complement sets of *A* and *B*.

The model of phasal aspect advocated by Dinsmore and Galton is not antithetical to that outlined by Herweg. The former model highlights the fact that phasal situations (e.g.,

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[19] The precedence relation represented (T1<T2) is that associated with the prospective aspect. Another precedence relation is associated with the perfect aspect: T1>T2. In each case, T1 is the time at which the D-situation, a state predication, obtains.

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inceptive, perfect or progressive situations) are temporally defined. That is, as noted by Herweg, the time of the D-situation (the 'highlighted' subphase of the R-situation) must be identified with the time for which the phase in question is instantiated. Thus, for example, the time of occurrence of the 'pofective' event type is the time for which the corresponding state phase is instantiated. However, the temporally based model does not represent what appears to be the basic communicative function of those constructions belonging to the system of phasal aspect: that of licensing an *aspectual reclassification* of the R-situation. By presenting a temporally defined 'slice' of the R-situation, rather than the R-situation itself, the speaker supplies an aspectual perspective distinct from that intrinsically associated with the R-situation. Because it reckons with such perspectival shifting, we have reason to prefer the model described in 1.3.3.

1.4. The Aspectual System of English: A Synopsis

This section will both summarize and elaborate upon observations made in the preceding three sections. In these sections, we discussed three aspectual subsystems: *viewpoint aspect* (also known as the imperfective-perfective distinction), *situation aspect* (also known as Aktionsart) and *phasal aspect*. Viewpoint aspect is commonly referred to as *grammatical aspect*, because it is expressed morphologically in Slavic languages and in languages like Latin (cf. examples (1.1-1.2)).

It is impossible to describe any one of the three aspectual subsystems without making reference to another. For example, the system of Aktionsart classes, as envisioned by Vendler (1967), provides a classification of event types—activity, accomplishment and achievement (cf. section 1.4.2). That system of distinctions then elaborates the event-state distinction—a distinction which in turn forms the conceptual basis of the system of viewpoint aspect. Despite the fact that the three aspectual systems in question are not autonomous, we can identify a distinct functional and/or conceptual basis for each, while acknowledging a certain amount of functional coalescence. We can also note whether that

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subsystem tends to receive direct morphosyntactic encoding within the familiar Indo-European languages. This information is expressed in figure 1.1:

Aspectual Class	Conceptual/ Functional Basis	Direct Encoding	Morphological Realization (e.g.)
Viewpoint Aspect	event-state distinction/expression of attention to endpoints	yes	perfective aspect (Latin)
Situation Aspect	ontology of idealized situations	no	———
Phasal Aspect	mediation between event-state classes/ expression of speaker perspective	yes	progressive phase (English)

Figure 1.1: ***Three Aspectual Subsystems***

1.4.1. Viewpoint Aspect

I follow Smith (1986, 1990) in using the label *viewpoint aspect* as a cover term for the aspectual categories *imperfective* and *perfective*. I differ from Smith in viewing the English progressive construction as an exemplar of phasal aspect rather than (imperfective) viewpoint aspect. (Smith's model does not countenance a phasal system.) It is certainly true, as we have noted, that the progressive construction in English, like imperfective marking in Latin, denotes a stative situation (cf. Vlach 1981). For example, progressive sentences have the property of distributivity: if we know that Raymond was fixing the Buick for an hour yesterday, we also know that he was fixing the Buick at all times within that hour. Further evidence of cross-linguistic parity between the progressive construction and imperfective marking is the following: the progressive serves a communicative function akin to that of imperfective morphology in languages like Latin: it effects overrides of

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inherent (Aktionsart-based) perfectivity (cf. example 1.22). However, as shown in figure 1.1, the conceptual basis of viewpoint aspect differs from that of phasal aspect. While the former system directly encodes the event-state distinction, the latter system *presupposes* that distinction—it exists solely to accomplish perspectival shifts involving the conceptual categories *event* and *state*. As a result, while viewpoint aspect may (and typically does) encode the default aspectual characterization of a given situation as event or state, phasal aspect necessarily encodes an aspectual characterization at odds with the Aktionsart type of the VP-complement denotatum. This fact explains the anomaly of those progressive examples in which the complement VP represents an intrinsically stative situation, e.g., **My star student is knowing the answer*. Since knowing an answer is stative by virtue of the Aktionsart class or idealized type associated with this situation, the presentation of this situation by means of the 'stativizing' progressive construction is odd, insofar as the progressive serves to override, rather than reflect, the canonical aspectual classification of the complement-VP denotatum.

As argued above, the viewpoint aspects perfective and imperfective are covert categories of English; that is, they are not directly encoded morphologically but have a number of grammatical and inferential ramifications. This discussion will focus upon viewpoint aspect as it is grammatically realized in languages like French and Latin. That is, we will examine viewpoint aspect only insofar as it is grammatically manifested in imperfective and perfective morphological marking.

The selection of the term *viewpoint aspect* reflects the fact that aspectual constructs in this class express the subjective 'location' of the speaker with respect to the situation that is talked about. Does the narrator locate himself within a situation and ignore the endpoints of that situation, or does he 'stand back' in order to include those endpoints within his field of vision? The former perspective is associated with imperfective aspect, the latter with perfective aspect. In formal theories of temporal discourse like those based upon DRT, as we noted in section 1.3.2, these two perspectives are modeled as distinct 'directions of

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inclusion': distinct means of relating the situation denoted to a reference time. That is, viewpoint aspect indicates either that the situation subsumes the reference time, or that it is subsumed by the reference time.

This perspectival opposition devolves upon an ontological distinction: the conceptual split between events and states. Like their respective spatial analogues, count and mass entities, events and states are distinguished according to their distinct patterns of disposition within the regions (i.e., intervals) at which they are located. Homogeneity of subparts and the lack of necessary boundaries are properties which are closely associated in both the temporal and the spatial domains. In the case of situation types, however, we are concerned not with disposition across some spatial expanse, but with a given situation's 'mode of occurrence' within the temporal 'boundaries' imposed by the reference time of the particular predication. An event, is bounded in time, therefore, it is subsumed by the reference interval. The event culminates within that interval. A state is not bounded in time. Therefore, it properly contains the reference interval. As we saw in section 1.3.2, this difference in 'direction of inclusion' captures the distinct patterns of inference licensed by the two aspectual classes. In section 1.2.2.4, we discussed the following principle of inference: while a state predication permits the interpreter to envision a superinterval—containing the reference time—at which the state in question also holds (*modulo* pragmatic feasibility), this mode of inference is not available in the case of an event predication, since the latter is 'exhausted' by the reference interval to which it is relativized.

In section 1.2.1, it was argued that the selection of one or another viewpoint aspect is to some degree determined by the 'default' or canonical aspectual categorization of the situation in question. This default characterization is the Aktionsart or situation type of that state of affairs, whose formal realization is a verb plus its nominal and adverbial arguments. The situation-type characterization arises from the manner in which the conceptualizer reconciles the 'actual situation' (the situation as she views it or imagines it) with a canonical situation type. As Smith notes (1986:99):

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> When speakers talk about an actual [or imagined] situation, they present it as an exemplar of an idealized situation type by using the linguistic forms associated with that type.

The Latin examples in (1.1) and (1.2) show that the standard aspectual presentation of states is imperfective, while the aspectual presentation canonically associated with events is perfective. However, as we saw in section 1.2.2.4, viewpoint aspect can be used flexibly, to indicate the manner in which the speaker construes a situation, irrespective of the Aktionsart of that situation. The option of nonstandard aspectual choice enables the narrator to divide the eventualities depicted in the narrative into foreground and background situations (cf. section 1.2.2.4). As we will see, flexible aspectual construal is facilitated in English by means of contructs belonging to the subsystem of phasal aspect.

It is important to note that the focus upon boundaries imparted by the 'nonstandard' use of the perfective aspect does not necessarily entail focus upon both beginning and terminal points of a state. In languages which grammaticalize the event-state distinction, speakers may attach perfective morphology to a state predication in order to focus the point of inception or 'lower bound' of that state. In footnote 10, we noted that a French translation of (1.16) presents the state of Marge's being happy by means of the perfective aspect (*passé simple* or *passé composé*). This presentation signals that this state obtained only following the event encoded by the first sentence. In Hopper's terms, this perfective encoding signals that the state (or, rather, its inception) is to be assimilated to the succession of occurrences which comprise the foreground of the narrative. In the case at hand, the perfectively presented state is not a wholly bounded state, or state phase; the state encoded by the *passé simple* does not qualify as an event in the terms of the analysis set out here. That is, it is not necessarily exhausted by the reference time for which it is asserted. In the context given in footnote 10, the sentence *Margot eut l'air heureuse* (lit. 'Margot had

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(p.s) a happy demeanor') does not mean that Margot was happy for 'a while' and then became sad, since Margot's happiness need not have ceased at all. Perfective aspect in such examples has a function akin to that otherwise associated with inceptive aspect (e.g., *begin to* in English): it evokes an event of inception defined with respect to a 'backgrounded' imperfective situation (Margot's being happy), which may last indefinitely.

Kamp and Rohrer (1983) explore this use of the *passé simple*, examining the inchoative interpretation of the perfective form of the verb *être* ('to be'). They observe that, e.g., *Il fut* (p.s.) *président* means "He became president". With respect to this example, they argue (p. 259) that

> the *passé simple* construction is derivative from the more fundamental use of the verb phrase *etre président* as a stative. In the *passé simple*, the VP plays the role of a nonstative, reporting the event which is the transition from nonsatisfaction to satisfaction of the stative VP.

As S. Fleischman points out (p.c.), the claim that perfective aspect may be used to denote an event of inception identified with the time at which a state begins to hold is further substantiated by the fact that the French verb *savoir* ('to know'), when appearing in the *passé simple* of *passé composé* (*je sus, j'ai su*) means not 'I knew' but 'I found out'. Here, the initial phase of knowing is depicted as an event of discovery. Such examples provide further evidence that in those languages which feature a grammatically encoded event-state distinction, like French and Latin, imperfective and perfective morphology can serve functions akin to those served by the various phasal aspects in languages like English. Along these same lines, our Latin example (1.22) demonstrated that imperfective morphology, when attached to an inherently perfective VP (*somnum labi* 'to fall asleep'), fills a communicative role similar to that filled by the English progressive construction. The present example, and that provided in footnote 10, demonstrate that in languages like

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French, perfective aspect can evoke an interpretation akin to that of English inceptive aspect.

These cross-linguistic data substantiate a central claim of the present analysis: that the English phasal aspects serve to mediate between the two semantic and discourse-pragmatic categories: event and state. By 'mediate' in this context we mean that phasal-aspect constructions like the inceptive and progressive serve to denote a situation of a particular aspectual class—perfective or imperfective—while simultaneously evoking a 'background' situation of a distinct aspectual class. The semantic specifications associated with each phasal aspectual construction determine the manner in which the latter situation is related to the former. For example, the latter ('background') situation may properly include the former (as in the case of progressive aspect) or it may precede the former (as in the case of perfect aspect). In chapter two, we will use the tense logical framework described by Dinsmore (1991) to represent the temporal specifications associated with the phasal aspects.

The conceptual basis of viewpoint aspect is, as shown in figure 1.1, the event-state distinction. We noted that this cognitively based opposition involves the two covariant properties of change and boundedness. The event-state distinction as it is defined conceptually cannot be extricated from the perspectival difference described above. In denoting a situation by means of imperfective or perfective aspect, the speaker necessarily necessarily expresses a viewpoint upon that situation. For example, in portraying a situation as an event, the speaker expresses a willingness to attend to one or both endpoints of that situation—what has been called an 'external viewpoint'.

Because aspectual encoding (perfective versus imperfective marking) expresses speaker perspective, aspectual marking confers what may be called an *operational definition* upon the encoded situation. Thus, for example, a certain type of situation, say Margot's being happy, qualifies as a state only because the narrator chooses to view it that way. The demands of producing a coherent text, in which, e.g., relations of temporal overlap and

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precedence are clear, may induce the narrator to depict this same situation as an event: a situation which begins after the time of the last event depicted in the narrative, and thereby entails an event of inception.

1.4.2. Situation Aspect (Aktionsart)

As indicated in figure 1.1, situation aspect represents a classification of idealized situation types. The major division in this taxonomy is the event-state distinction. This conceptual distinction also figured prominently in our discussion of viewpoint aspect above. In this case, however, the labels *event* and *state* represent ontological commitments on the part of the speaker, akin to those involved in judgements of category membership. A given label—what we called default aspectual categorization—is applicable in the absence of any particular presentation of that situation. A familiar spatial analogy may prove helpful in understanding the distinction between situation aspect and viewpoint aspect. With respect to the mass-count distinction, speakers of a given language will presumably agree as to whether a given entity qualifies as a mass of some sort. Speakers make such judgments without observing any particular instance of a that mass, as certain mass tokens will be appropriately classified as individuated entities (e.g., portions). Thus, speakers will report that wine is a mass (of a particular type, i.e., a liquid), but description of a given token of that mass may entail a count presentation, as when varieties or bottles of wine are at issue (*several fine wines*, etc.). Therefore, we can distinguish between the classification conventionally assigned to the type and the construal imposed by the speaker upon a given token of that type; these two characterizations may or may not differ. In the same fashion, we can distinguish between the intrinsic character assigned to a certain type of situation and the operative definition accorded that situation in the context of a narrative. As we saw in the Latin example (1.22), an inherently perfective situation (falling asleep) is subject to an imperfective textual presentation. Ideally, the situation in question entails a point of culmination. However, where that point is outside the focus of the text (or unlikely to be attained, as in the example at hand) that situation is unbounded with respect to the

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immediate concerns of the narrator (cf. Dahl 1981 on the distinction between hypothetical and actual points of culmination).

While the event-state distinction is the conceptual crux of situation aspect, a number of finer-grained semantic distinctions are commonly subsumed under the heading of Aktionsart. The essential parameters of the situation-type ontology can be distilled into the following questions: does the situation entail change over time and, if so, does that change take time or does it occur instantaneously? In the Aktionsart schema, states are oppposed to three event types. Figure 1.2 displays the classification of events. This classificatory schema is deeply rooted in the Western philosophical tradition. It was introduced by Aristotle, who, in *Metaphysics*, distinguishes two classes of events: *energeia* and *kinesis*. The latter are events having goal states, the former are events lacking any intrinsic endpoint. This scheme was elaborated in works on the nature of action and will by Zeno Vendler and Anthony Kenny. It is Vendler's scheme that we adopt, with some modifications, in figure 1.2, although this is certainly not the only system of Aktionsart classification which has been proposed. Talmy (1985) has suggested a somewhat more elaborate scheme in which, for example, achievements and accomplishments are divided into resettable and nonresettable event types. Among nonresettable event types are dying and killing; resettable types include falling down and dropping. A grammatical ramification of this distinction relates to enumerability (cf. section 1.2.2.1): nonresettable actions cannot be depicted as iterated actions: **He died several times*. Our invocation of Vendler's system of Aktionsart classes is motivated primarily by the familiarity of this schema and its relative simplicity: [20]

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[20] This Aktionsart classification overlooks finer-grained distinctions like semelfactivity. The class of semelfactive predicates (*sneeze*, *cough*, etc.) is overtly marked in Slavic languages and represents a covert class in languages like English. Semelfactives resemble activities in that they are atelic; they resemble achievements in that they are punctual. As noted by Langacker (1991), an inferential ramification of semelfactivity in English is found in the interpretation of progressives. Progressives sentences like *Harry*

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	Temporally Extended	Nonextended
Telic	accomplishments: *Harry built a house.*	achievements: *Harry reached the summit.*
Atelic	activities homogeneous:*Harry slept.* heterogeneous: *Harry jogged.*	

Figure 1.2: *Situation Aspect*

It is important to recognize that although the occurrence types listed here were originally identified as classes of physical phenomena, *linguists* have appropriated this scheme as a way of describing the conceptual structure that speakers impose upon the domain of eventualities. In particular, we focus upon the linguistic phenomena that are symptomatic of these conceptual distinctions. The distinctions listed in figure 1.2 have no direct morphosyntactic manifestations, but they do have a number of semantically motivated grammatical reflexes. These reflexes are described in some detail by Vendler (1967), Dowty (1979) and Foley and Van Valin (1984). Dowty observes, for example, that while an accomplishment verb can serve as the complement of the verb *stop* (as in *Lucy suddenly stopped patching the tire*), an achievement verb cannot, as shown by the anomaly of sentences like: **Ray stopped falling off his chair*. In what follows, we will focus not only upon co-occurrence restrictions of this sort but also upon the basic conceptual and inferential distinctions which form the basis of the event-type ontology given in figure 1.2.

1.4.2.1. *Durational adverbs and entailment.* A number of the grammatical ramifications of Aktionsart class distinctions cited by Vendler and others concern the compatibility of

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was sneezing typically have an iterative interpretation rather than an 'in-progress' interpretation (one could imagine a very slow sneeze, but this reading is *a priori* implausible).

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various types of predicates with adverbs denoting temporal intervals. Activities, like states, and unlike telic events, accept durational adverbs like *for ten minutes*. This fact can be attributed to the fact that activities have the property of (weak) distributivity (cf. section 1.3.3.3). Durational adverbs (DAs) fix the minimum amount of time a situation occupies. That is, DAs are downward entailing but not upward entailing. If we know that Marlon pondered the problem for ten minutes, then we know that he pondered the problem for nine minutes, etc. However, we cannot infer that he pondered the problem for eleven minutes, etc.

Herweg (1991a) argues that DAs differ in this regard from time-span adverbials like *in ten minutes*, which are upward entailing but not downward entailing: if Harry patched the tire in ten minutes, we can conclude that he patched the tire in eleven—but not nine—minutes, etc. Telic event predications accept (only) upward-entailing time-span adverbs. This fact can be attributed to the antisubinterval property: if an event lasts for ten minutes, no time within that span is also a time at which the event is instantiated. The claimed entailment property of time-span adverbs reflects the 'logic of containment': if the tire-patching event fits a container that is 'ten minutes wide', it will necessarily fit in any larger container. It will not necessarily fit inside a smaller container. [21]

1.4.2.2. *Two kinds of activities*. In figure 2, we see that the class of activity predications is divided into two classes: homogeneous and heterogeneous activities. This division was discussed at the beginning of section 1.2.1. Some states, like being ill, are

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[21] There is a potential problem with this analogy. What is the nature of the semantic interaction between the event predication and time-span adverbial? Does the event 'fill' the time span as a foot fills a shoe? The fact that I take a size eight shoe does not entail that I take a size nine shoe. If, however, the time-span adverbial only provides a temporal region *within* which the event culminated, the entailment seems to go through: if Harry got a parking ticket this morning, then he also got a ticket today, this week, this month, etc. That is, if the event is included with the reference time *noon*, then it is also included in any interval which includes the interval described as *noon*.

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subject to an episodic construal akin to that associated with homogeneous activities, i.e., situations of stasis featuring salient end points. This construal is exemplified by sentences of the following type: *The cat was ill, but he seems to be better now.* Episodic state predications welcome durational adverbs like *for a while* (cf. foonote 18).

It has often been noted (cf., e.g., Dowty 1979) that the verbs *sit, stand* and *lie* pattern like states when coupled with an inanimate subject (*The floor lamp stands in the corner*), but pattern like activities when coupled with an animate subject (**Harry stands in the corner*). A particular body posture or position, unlike the location of an object, has intrinsic temporal limitations, and is hence construed as a homogeneous activity or episode of stasis. Another episodic state is living on a particular street: *Harry lives on 51st.* This situation, like that represented by a particular body posture, is subject to cessation. As noted in section 1.2.1, susceptibility to cessation is a form of dynamism, or temporal instability. Such dynamism licenses a progressive construal of the state: *Harry is standing in the corner, Harry is living on 51st.*. The progressive construal requires that the conceptualizer invoke a perfective construal of the complement-VP denotatum (or R-situation) (cf. section 1.4.3.2).

The foregoing discussion raises the following question. Is there any actual (i.e., real world) difference between those situations viewed as inherently limited states, classed as homogeneous activities, and those situations viewed as having no necessary temporal limitations, classed as states? Again, we must note that the Aktionsart classes (and subclasses) are conceptual categories, rather than labels for physical phenomena. Certainly, the state of affairs denoted by the sentence *Marge is happy* may be an ephemeral one. In fact, the period of Marge's happiness may be shorter, in absolute terms, than the period during which Harry is lying on the sofa. Nevertheless, the conceptualizer—as a matter of linguistic convention—views the state of happiness as one without inherent bounds, while the state of being recumbent is seen as inherently unstable. This conventionalized distinction in conceptual structure ensures that states of the latter sort qualify as events.

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Accordingly, predications encoding various body-postures, like *lie* and *stand*, are amenable to the progressive construal (*Harry was lying on the sofa*) and resistant to present-tense reporting (**Harry lies on the sofa*).

1.4.2.3. *Extended and punctual events.* Both accomplishment predications and achievement predications designate changes of state. It is often said that accomplishments differ from achievements in that achievement predicates like *win the race* denote an instantaneous change, which occurs after some distinct phase of preparation, while accomplishment predicates like *build a house* denote both the preparatory and final phases of the situation described.[22] Upon hearing the assertion *Flo won the race*, we cannot infer that Flo was winning the race at all times leading up to the eventual victory. Flo's pulling ahead of the frontrunner, for example, does not count as her winning the race. However, upon hearing that *Drew built a cabin*, we can infer that Drew was engaged in house-building activity for some period prior to the time at which the cabin came into being. House-building activity consists of numerous episodes in which the builder attains each of the myriad subgoals which must be reached during the course of construction—e.g., pouring the foundation, erecting the walls. As shown in (1.34), an inferential ramification of the distinction between punctual and durative telic events relates to the interpretation licensed by the *in*-phrase of duration:

(1.34) a. After drinking the hemlock, Socrates died in ten minutes.

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[22] Another commonly invoked difference between accomplishments and achievements does not hold up under closer inspection. Accomplishment predicates are said to be causatives, unlike achievements. Dowty (1979), however, notes the existence of a class of nonagentive predicates denoting complex changes of state: *dissolve*, *flow from x to y*, etc. These predicates pattern like accomplishments with respect to the interpretation of *in*-phrases of duration, etc. It is somewhat puzzling that despite the existence of noncausative accomplishments, Dowty proposes in this work to decompose accomplishment predicates by means of an abstract predicate CAUSE, which relates an agentive causing event DO φ to and inchoative event BECOME ϕ.

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b. Harry repaired the fence in ten minutes.

In (1.34a), the durational phrase is paraphrasable as 'after ten minutes'. In (1.34b), the same phrase is interpretable as 'during ten minutes'. One difficulty with this line of explanation arises when we consider the fact that in the physical world, events like dying or reaching the summit certainly have duration. Dying might entail a succcession of phases beginning with loss of cardiac function and ending with cessation of brain activity. If, however, we view Aktionsart classes as conventionally defined conceptual categories, what is important is that speakers do not *attend* to the subepisodes subsumed by achievements. In the case of accomplishments like repairing the fence, speakers can readily list the requisite subepisodes (fetching the hammer, replanting a stake, etc.). In the case of achievements like dying, however, speakers will typically report that the subevents involved are somewhat ineffable.

1.4.3. **Phasal Aspect**

In section 1.3.3, we examined a formal account of phasal aspect in which aspectual constructs are viewed as bivalent operators which serve to relate two tenseless predications. The two predications correspond to two distinct situation types (event or state) which occur or obtain at distinct times. Thus, the progressive construction is represented as an operator which relates an event predication to a state predication; the denoted state obtains at some time within the interval during which the overarching event occurs. It is important to recall here that by 'event predication' and 'state predication' we have in mind here a complex formula of the type used by Parsons (1990) to represent tenseless event and state propositions: an existential proposition establishing the existence of an event individual and/or time interval, a tenseless proposition indicating the particular event or state type, and an operator (*Culminate*) relating the event, if any, to its time of culmination. Thus, the progressive operator relates the tenseless stative predication ∃t*Tom be- eating lunch' (t')* to the tenseless event predication ∃e ∃t: *Tom eat- lunch & Culminate* (e, t). Here, the interval *t*

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properly includes the interval *t'*. This mode of analysis captures the following insight: aspectual constructs in this class differ from viewpoint and situation aspects in the following respect: they are inherently relational. Each phasal construct expresses a particular correspondence between two temporal intervals, and thereby relates two distinct situations which obtain or occur at those intervals. The mediating function of phasal aspect is highlighted by Coseriu (1976), who argues that phasal aspect expresses: "a relationship between the moment of regard and the degree of development of the verbal process under consideration". [23]

This relationship is asymmetric. To use a visual metaphor, we can say that one situation, the D-situation, represents the foregrounded state of affairs—that situation to which the speaker draws the hearer's attention. The R-situation represents the backgrounded state of affairs. In terms of the framework proposed by Langacker (1987), the R-situation is the base: the semantic structure against which the D-situation is profiled. As noted in section 1.3.3.1, the relational function of phasal aspect has a spatial analog: that of portion extraction.

The paradigmatic contrasts within the system of phasal operators are schematized in figure 1.3:

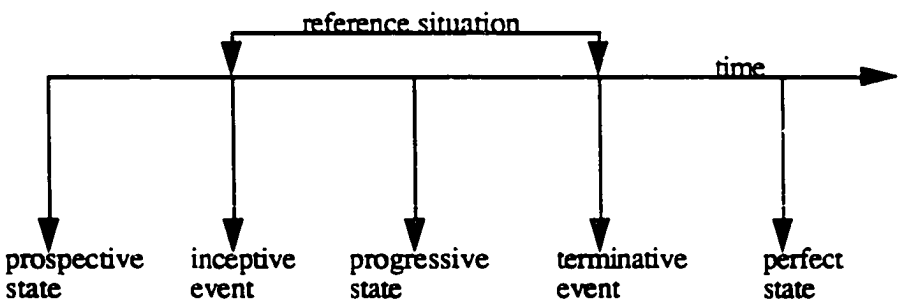


Figure 1.3: ***Phasal Aspects***

[23] This translation is taken from Slobin and Bocaz (1989).

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In figure 1.3, the inclusion of a horizontal time line is intended to represent the fact that phasal aspects relate time periods: each aspectual construct evokes an interval that is positioned at some point on the time line relative to that interval in which the R-situation obtains or takes place. Further, as noted, a given phase of the R-situation (i.e., the D-situation) is a state of affairs in its own right, and as such classifiable according to the ontology of idealized situation types. The phasal aspects are used to present an aspectual perspective distinct from that which would otherwise be associated with the R-situation. The alternate construal is that associated with the Aktionsart of the denoted or 'foregrounded' situation.

1.5. Conclusion

In order to situate the perfect construction within the aspectual system of English, we have examined the structure of that system. This system comprises three functionally and/or conceptually defined components: viewpoint aspect, situation aspect (Aktionsart) and phasal aspect. Certain types of aspectual meaning represent covert linguistic categories. A component of conceptual structure was said to be a covert category if it is not directly encoded, but has inferential and grammatical ramifications. The classes *event* and *state*, as well as the system of Aktionsart classes, were said to represent covert categories in English.

Following an exploration of two fundamental formal accounts of English aspect, the eventuality-based and propositional accounts, we examined the rudiments of a speaker-based model of aspect. This model was presented as an algorithm of the following sort: the speaker first classifies a perceived situation according to an ontology of idealized situation types, and then determines an appropriate grammatical means of presenting that situation. What constitutes an appropriate presentation is that which expresses the viewpoint assumed by the narrator. In construing a narrative, the hearer will partition the situations presented into background and foreground. The grammatical cues which facilitate this interpretive

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strategy will differ from language to language. We noted that languages like Latin rely in part upon a grammatically encoded event-state distinction, while in English, phasal aspects provide the presentational flexibility which enables the narrator to signal the temporal relations among situations presented in the text, as well as the distinction between those situations which comprise the main story line—the various plot developments—and those situations which provide the backdrop against which the events in question are arrayed.

Phasal aspects were said to represent bivalent operators which mediate between the two conceptual categories *event* and *state*, mapping event predications onto state predications and *vice versa*. This mediating function was described in the following fashion: constructions denoting phasal aspects—like the perfect, inceptive and progressive—denote a situation of a particular aspectual class—perfective or imperfective—while simultaneously evoking a 'background' situation of a distinct aspectual class. The semantic specifications associated with each such aspectual construction determine the manner in which the foregrounded situation is related to the backgrounded situation. In the case of the perfect construction, as noted in section 1.1, the background situation (or VP-complement denotatum) wholly precedes the time of the foreground situation (the denotatum of the auxiliary head).

This discussion invoked an analogy between phasal aspects like the progressive and the linguistically manifested concept of portion extraction. Both the nominal partitive construction and the progressive evoke a construal in which the denotatum of the phrasal head represents a subpart (whether spatially or temporally defined) of that entity denoted by the (prepositional or participial) complement. Section 1.4.3 presented a simple representation of the system of phasal aspects, the paradigm of relational constructions to which the perfect belongs.

The following chapter will provide a more detailed picture of that system. This chapter will suggest that in order to get a detailed picture of aspectual meaning, we must approach a given aspectual marker on its own terms, going beyond the paradigm of temporal

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distinctions in which that marker participates. We will examine evidence suggesting that the meanings of phasal aspects are crystalized into the form of grammatical constructions. As a prelude to this discussion, I will outline the Construction Grammar framework.

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Chapter Two: The Grammatical Embodiment of Aspectual Meaning

2.1. The Organization of Grammar and Lexicon

Aspectual meaning [1] is grammatically mediated meaning. This claim is reminiscent of Hornstein's (1990) assertion that "within the domain of tense, just as in other parts of natural language, semantic interpretation significantly undetermines syntactic structure" and that "[c]onsequently, it is imperative to discover the nature of the syntactic representations that mediate the sound-meaning mapping in the domain of tense" (p. 5). However, Hornstein's proposal differs from the present proposal in two crucial respects. Firstly, the syntactic component envisioned by Hornstein is highly abstract. Secondly, the syntactic constraints described are highly general, e.g., they are intended to have cross-linguistic applicability. Within Hornstein's general theoretical paradigm (the Principles and Parameters model advocated by Chomsky (1992)), these two properties—abstractness and generality—are related, insofar as the belief that grammar is an abstract system entails a universalist stance on grammar. The abstract nature of the syntax renders the principles involved difficult for a learner to extrapolate on the basis of the (arguably) impoverished primary linguistic data. The syntax must then, according to Hornstein, represent a feature of human cognitive 'hard wiring'. Because it is innate, it is a universal property of linguistic organization.

Hornstein's syntax of temporal expressions is abstract in that the structures that it sanctions bear no formal resemblance to the elements which express temporal relations, e.g., tense markers. The syntactic component which Hornstein describes is in fact based upon Reichenbach's (1947) linear representations of the semantics associated with the various tense markers. The primitives of this 'syntax' are three types of intervals—

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[1] Since we are now restricting our purview to the subsystem of phasal aspect, the word *aspect* and its derivatives will be used in this restricted sense. In particular, the term *aspectual construction* will be used to refer only to the formal realization of categories of phasal aspect; as argued in chapter one, no other aspectual subsystem receives direct morphosyntactic encoding in English.

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reference time (R), speech time (S) and event time (E). The principles of organization are constraints upon the order and association of two or more of these points. Association, denoted by a comma, e.g., E, R, represents identification of two points in time. Linear precedence, e.g., E...R, represents temporal precedence. Among the constraints which Hornstein proposes for this syntax are those which map the Reichenbachian representations of temporal adverbs like *yesterday* to those of tense morphemes like the past tense. According to Hornstein, sentences like **The plumber was here tomorrow* are anomalous because the representation resulting from the mapping of temporal adverb semantics to tense semantics (which requires association of the S and R points of the two representations) does not obey the following 'well-formedness condition' on complex tense representations: the mapping cannot reorder the S point of either 'input' representation with respect to E and R. The temporal representation associated with the futurate time adverb is S...E,R. The temporal representation associated with the past tense is (as noted in section 1.2.2.4) E,R...S. Association of the R (= E) points of the two representations would leave the S points unassociated unless a reordering of S and the E,R point were to occur in one or another of the input representations. This reordering would, however, violate the constraint proscribing the reordering of S vis-à-vis E and R. Hence, the starred sentence under consideration is ruled out not because of its patent semantic anomaly, but because the representation underlying it is 'ill formed' according to a grammar which constrains the mapping of tense representations. Hornstein argues that this sort of structural explanation is more general and less *ad hoc* than any available semantic explanation, and therefore a more worthwhile focus of linguistic theory. This argument appears to reflect Chomsky's credo that linguistic theory is appropriately classed as scientific theory only insofar as the study of language is the study of grammar (Chomsky 1981). However, the cost of reducing semantic anomaly to syntactic anomaly is a syntactic component which bears little resemblance to that which we ordinarily include under the rubric of natural language syntax, i.e., the structural description of linguistic expressions.

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The syntactic component described by Hornstein qualifies as a general system in the following two respects: (a) the syntactic constraints described are applicable to all exponents of tense in English (including so-called relative tenses like the past perfect) and (b) the tense grammar proposed is universal. The aspectual grammar which I will describe here lacks generality in both of these respects. This aspectual grammar is viewed as a component of the grammar of English *per se*. No universal claims are made. In fact, as we will note in chapters three and four, certain cross-linguistic data substantiate the singularity of the English RPC, or Resultative Present-Perfect Construction: while any number of languages contain a periphrastic resultative present-perfect, no analogue features the constellation of grammatical and discourse-pragmatic constraints which characterize the English instantiation of that aspectual marker. (Hornstein himself admits (p. 114) that the "[English] present perfect is a rather idiosyncratic tense [sic] and that "[a]nalogues in other languages are not easy to come by".) Furthermore, I will view the grammar of aspect not as a general system of rules, but as a lattice of locally applicable semantic, formal and pragmatic constraints. The domain of applicability is the grammatical construction, a conventional form-meaning pairing whose properties are not predictable on the basis of independently motivated principles of syntax, semantics or pragmatics. I will claim, therefore, that aspectual meaning is constructional meaning.

We will encounter two forms of evidence supporting this proposal. Firstly, we find instances of constructional accommodation, in which the interpretations of open-class elements are shaped by the constructional contexts in which those elements appear. Secondly, we find that aspectual constructs are characterized by idiomatic semantic, discourse-pragmatic and grammatical attributes. Accordingly, the aspectual system can be portrayed as a repertoire of grammatical constructions. Under this view, the grammar of aspect looks like a lexicon, in that it can be characterized as a repository of conventionalized form-meaning pairings. This repository is a structured inventory, rather than a list.

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The foregoing claim is a familiar one to those acquainted with recent attempts to discern patterns of lexical polysemy. These are studies in which distinct senses of a given lexical item are said to be related via locally productive redundancy rules (cf. Brugman 1988, Lakoff 1987, Lakoff and Brugman 1986 and Lehrer 1990). Each polysemous lexical item is held to represent a network of senses. The repertoire of redundancy rules which relate those senses are represented as an inventory of conventional 'links'. Among the possible sense links are those denoting metaphorical extensions and image-schema transformations. A link of the latter sort is said to relate the path-denoting sense of *over* (*Harry walked over the hill*) to the endpoint-denoting sense (*Harry lives over the hill*) (cf. Lakoff 1987). The picture that emerges from such studies is the following: the speaker's mental 'dictionary entry' for a given lexeme is more like a map than a shopping list. If one subscribes to the view advocated by Lakoff (1987), this map consists of a central or core sense, to which extended senses are directly or indirectly connected via particular links. The links represent patterns of meaning extension. The dictionary itself contains extensive cross references, such that it has properties of a network: the conceptual content of a given word may be related to that of another word by means of a semantic frame, such that the speaker's understanding of one concept is inextricably linked to his understanding of the other concept (cf. Fillmore 1982, 1985). Thus, as Fillmore notes, the concepts denoted by the words *buy* and *sell* are connected by virtue of the fact they designate distinct yet related episodes within a 'commerical-event scenario'. The existence of semantic frames and sense networks entails that the lexicon is highly structured: an individual lexical entry can be characterized as a network of interrelated senses, just as the lexicon itself may be viewed as a set of vocabulary fields.

Within the Construction Grammar framework (Fillmore, Kay and O'Connor 1988, 1992, Fillmore and Kay 1991), grammar and lexicon resemble one another closely, particularly with respect to the manner in which information is organized in each component. Recent work within Construction Grammar has suggested that grammatical

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constructions may be related by semantic links akin to those posited in instances of lexical polysemy. [2] An example of this style of analysis is found in Lakoff's study of *there*-constructions (1987). Lakoff suggests, for example, that existential and deictic instances of the construction are semantically related—the former representing a metaphorical extension of the latter. A further example is found in Goldberg's study of the English distransitive construction (1992a), exemplified by sentences like *The mailman handed me a check.* Goldberg argues that the construction is polysemous, that its core sense evokes transfer, and that certain transfer-based metaphors license extended uses of double-object syntax. In general, constructions are said to be related to one another via relations of semantic and syntactic 'family resemblance', i.e., inheritance. Goldberg argues (1992b:4):

> The collection of construction is not assumed to consist of an unstructured set of independent entities... [I]nstead, ...constructions form a highly structured lattice of interrelated information.

The presence of inheritance relations of various kinds promotes generality and economy within the grammar: properties of form and meaning which are common to two or more otherwise distinct constructions need not be listed in the description of each construction. Instead, only one construction (say, Construction A) is fully specified, while another (Construction B), related to Construction A via an inheritance link, is only partially represented (i.e., underspecified). The semantic and syntactic specifications associated with Construction B are *partial* insofar as they denote only those properties which are not predictable from properties of Construction A. Inheritance links, according to Goldberg

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[2] I do not mean to suggest that all proponents of Construction Grammar hold the view of lexical polysemy desribed above, or that belief in the existence of inheritance relations among constructions entails belief in the existence of lexical-sense networks as linguistic generalizations or psychologically valid patterns of inference.

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(op. cit.:73), are used to "capture the fact that constructions share all nonconflicting syntactic and semantic information".

To some extent, the view that grammar contains networks of inheritance reflects an abiding concern of certain recent theories of natural language data-structure representation (cf. Jurafsky 1992): information must be stored efficiently, in such a way that it is readily modified. A simple example of inheritance is found in my study of a Latin correlative construction (Michaelis forthcoming a). There, it is argued that the Latin comparative conditional, exemplified by expressions like *Quo minus cupiditatis, eo plus auctoritatis* ('The less cupidity, the more authority'), inherits its syntactic and semantic structure from a general biclausal correlative construction, exemplified by expressions like *Quot homines adstabant tot sententiae erant* ('There were as many opinions as there were people standing around'). The general correlative construction is composed of a subordinate clause introduced by a relative element (e.g., the adverb *quot*), paired with a main clause containing a demonstrative element of the same lexical category (e.g., the adverb *tot*). The pairing is interpreted as signaling equivalence of two values on a pair of pragmatic scales (e.g., those denoting number of persons and of opinions). In Goldberg's terms, the comparative conditional is related to the general correlative construction by means of an *instance link*: the former is a more fully specified instance of the latter. In particular, the comparative-conditional construction contains (a) a syntactic specification requiring that the scalar nominals, adjectives or adverbs appearing in the subordinate and main clauses represent comparative expressions, and (b) a semantic specification requiring that each of the two scalar values invoked (e.g., values for cupidity and degree of authority) be interpreted as a variable value rather than as a constant. The comparative conditional also inherits formal and interpretive features from a particular degree-phrase construction: the so-called ablative of measure, by which a quantity noun in the ablative case modifies a compared expression. The ablative of measure is exemplified by phrases like *vir melior **multo*** ('a better man **by far**'). The degree-ablative construction is related to the correlative

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conditional by means of a *subsumption link*: the latter subsumes the syntax and semantics of the former.

The structure provided by the existence of networks of inheritance relations will play a part in our analysis of the perfect construction. For example, it will be argued that the past and present perfects are *instances* of a maximally general finite-perfect construction, which is underspecified with respect to the tense of the auxiliary head. Furthermore, I will suggest that three senses of the present perfect (resultative, existential and continuative) are related to an abstract present-perfect construction via instance links.

When we refer to the grammar of aspect as a structured inventory of grammatical constructions, we will have in mind not only the network of inheritance relations, by which correspondences of form and meaning are represented, but also the discourse-pragmatic division of labor among grammatical exponents of tense and aspect. We will investigate the hypothesis that use conditions and interpretive constraints associated with the various aspectual constructions are imposed by a system of discourse-functional oppositions. At the heart of this investigation is the claim that the communicative function of a given linguistic construct may be influenced by that of a synonymous construct. This claim is familiar from studies of transderivational interpretive constraints, particularly Kiparsky's (1982) work on the conditions under which apparently referentially equivalent derived (or inflected) forms may coexist in the lexicon. Kiparsky observes that Aronoff's (1976) lexical blocking rule, by which irregular forms (e.g., *decency*) prempt regular forms (e.g., **decentness*), is overly general, in that we find any number of cases in which irregular and regular forms exist side by side. In such cases, Kiparsky argues, "the special[ized] affix occurs in some restricted meaning and the general [more productive] affix picks up the remaining meaning". Thus, for example, in English, the irregular plural *brethren* refers (metaphorically) to justices of the US Supreme Court, while the more productive plural formation *brothers* receives the unmarked literal interpretation (male siblings). With respect to such examples, Kiparsky argues for the existence of a general restriction which he refers

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to as the 'Avoid Synonymy' condition. He describes this condition as follows: "The output of a lexical rule may not be synonymous with an existing lexical item". This principle is reminiscent of Clark's (1987) Principle of Constrast (to be discussed in chapter three) and Bréal's (1900) Law of Differentiation.

With respect to the Avoid Synonymy restriction in particular, Horn (1984) argues that Kiparsky's examples of partial blocking can be attributed to the operation of quantity-based implicature. The use of a marked (irregular) form (e.g., *brethren*) where a corresponding unmarked (i.e, regular) form exists (e.g., *brothers*) is interpreted as conveying the message that the evoked denotatum is a special case within the set of extensions 'covered' by marked and unmarked forms. The inference in question proceeds via quantity implicature (Horn's R-based implicature): since the speaker will in general say no more than is required, the hearer infers that use of the marked form was necessary. i.e., that use of the unmarked form would not have conveyed the meaning that the speaker has in mind. The association of the marked term with a marked extension is conventionalized once interpreters determine (via quantity-based 'inference to best interpretation') that the unmarked term (e.g., *brothers*) refers to a *stereotypical case* within the shared extension of marked and unmarked terms. The marked term, by contrast, is conventionally associated with a special case; its use signals (under the assumption that the speaker is being maximally informative) that the unmarked case does not obtain.

While the particular special interpretation assigned to an irregular formation like *brethren* is conventional, and not *a priori* predictable, the etiology of that marked interpretation can be attributed to features of the 'ecology' of the lexicon. By the same token, I will presume that certain constraints upon the use and interpretation of aspectual constructions can—whether or not they are explained via Gricean interpretive mechanisms—be attributed to the general tendency of speakers to resolve 'overpopulation' within a semantico-pragmatic niche by ensuring that otherwise synonymous constructs are not interchangeable, whether by virtue of having distinct extensions or by virtue of having

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distinct use conditions. In particular, as I will argue in chapters three and four, a specific discourse-pragmatic restriction upon the resultative present perfect, which constrains it to contexts in which the event proposition denoted is 'new information', arises from a discourse-functional opposition in which the resultative present-perfect contrasts with the past tense. This opposition concerns the use of the preterite to evoke a past event, and an associated time of occurrence, which is *active* in the minds of the interlocutors. This use will be taken as evidence that the preterite has *anaphoric potential*: the ability to 'refer back' to a prevously invoked temporal interval. I will demonstrate that this potential is lacking in the case of the resultative present-perfect.

2.2. Constructional Accommodation

A central tenet of this study is the notion that phasal aspects have semantic and grammatical properties above and beyond those which one would predict on the basis of the mediating function attributed to these constructs under the accounts offered by Herweg and Dinsmore (cf. sections 1.3.3 and 1.4.3 of the previous chapter). The English phasal aspects represent verb-phrase (VP) constructions. These constructions are partially lexically filled. For example, the progressive construction specifies that the verbal head is the auxiliary *be*, while the complement receives the present-participial or gerundial ending *-ing*. All phasal aspects in English—progressive, inceptive, perfect, etc.—receive morphosyntactic rather than strictly morphological expression. In this regard, English differs from languages like Latin, in which inceptive aspect is expressed by means of a partially productive inchoative suffix *-sc*, while perfect aspect is expressed by means of the perfective marker in its myriad formal realizations (cf. Comrie 1976 on perfect/perfective ambiguity in Latin). In English, each aspectual construction is composed of an auxiliary or semi-auxiliary head verb combined with a participial, infinitival or gerundial complement.

2.2.1. The Notion of Grammatical Construction

Grammatical constructions are language-specific pairings of form and meaning with which certain semantic, grammatical and discourse-pragmatic features are uniquely

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associated. Grammatical constructions, like lexical items, are learned as units of linguistic information. The idiomatic character of such entities is highlighted by Lambrecht (1992:5), who defines a grammatical construction as:

> a morphosyntactic...configuration whose form and interpretation cannot be accounted for in terms of other properties of the grammar of the language (or of universal grammar) and which therefore requires independent grammatical description.

Constructions are instances in which a meaning has been conventionally assigned to a given form. Insofar as this is the case, words qualify as constructions. Lexical constructions specify parameters of form and meaning, as well as contexts of occurrence (cf. Fillmore, Kay and O'Connor 1988 on *let alone* and Kay 1990 on *even*). As noted by Goldberg (1992b), lexical constructions differ from grammatical constructions in internal complexity, and the degree to which phonological form is specified.

Because it emphasizes the conventional assignment of meaning to syntactic form, Construction Grammar is particulary well equipped to account for the properties of formal idioms. These are grammatical expressions whose form and interpretation are not predicted by any generally applicable phrase-structure rules. An example of a formal idiom, investigated by Fillmore, Kay and O'Connor (1988), is English comparative conditional sometimes known as the '*the...the*' construction. This construction is exemplified by the proverbial expression *The bigger they come, the harder they fall.* In examining the properties of this construction, Fillmore, Kay and O'Connor focus upon the following issue: to what is extent is the comparative-conditional syntax derivable from more basic constructions, and to what extent are its component parts—and the manner in which they are combined—unique to this structural pattern? These authors note that the English comparative conditional inherits certain syntactic propoerties from those constructions which it resembles semantically. Hence, the comparative conditional, like conditional

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constructions in general, suppresses futurate *will* from the protasis. The comparative conditional also displays characteristics of comparative constructions (e.g., ordinary comparative morphology). At the same time, Fillmore, Kay and O'Connor point out that (a) there is no established category label for the definite article in its function here as a degree marker, and (b) standard phrase-structure rules do not provide for the pairing of parallel clauses of exactly this type. Therefore, the English comparative conditional represents an extragrammatical structural pattern. The interpretation of this biclausal structure—which entails the existence of a relationship between an independent and dependent variable (e.g., size and severity of downfall)—is therefore not determined via semantic composition, which entails amalgamation of the meanings of the various phrasal and lexical constituents, but via convention. Therefore, the English comparative-conditional is presumably learned as "an individual whole fact about [a] piece...of language" (op. cit.:504).

It is important to keep in mind, however, that despite its focus upon such formal idioms, the Construction Grammar approach does not deny the existence of compositionally derived meaning. Compositional meaning is that which is computed from the meanings of lexical items and the syntactic rules used to combine them. To a large extent, the Construction-Grammar treatment of predication reflects that found in unification-based syntactic theories like HPSG, wherein interpretive rules are directly mapped from syntax. In such theories, as in Construction Grammar, the valence (subcategorization) features of the verbal head percolate upwards to determine the interpretation of the sentence. The subject argument is the *distinguished argument*: that member of the verbal subcategorization frame ranking highest on a thematic-role hierarchy.

By positing a *Subject-Predicate construction*, however, one accounts for features of the interpretation of simple sentences which do not belong to the array of semantic properties projected from the verbal head. Among these features are discourse-pragmatic properties: there is a strong tendency in English (as in other subject-prominent languages) for the

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subject position to be filled by a topical element. A number of valence-changing constructions, including the passive and possessor-ascension constructions, commonly mediate mismatches between topic status and 'distinguished argument' status, enabling a topical element to serve as subject where it would not otherwise qualify as such (cf. Van Oosten 1984). The discourse-pragmatic properties which accrue to the subject role require an account of the subject-predicate construction which goes beyond those attributes readily viewed as compositional.

2.2.2. Constructional Meaning

The grammar is a structured inventory of such form-meaning pairings. The validity of this conception of grammar, central to Construction Grammar (Fillmore and Kay 1991, etc.), is under attack on two fronts. On one front are advocates of the so-called Principles and Parameters approach. These analysts have argued that language-particular grammatical constructions are 'taxonomic artifacts', and that grammatical phenomena in a given language can be attributed to the interaction of general principles of Universal Grammar (cf. Chomsky 1992). On another front, there are those for whom the lexicon plays a central role in grammar. Proponents of Lexical Functional Grammar (as well as Government and Binding theory) have argued that a given level of syntactic and semantic structure is projected from the valence and subcategorization requirements of the lexical head. This view is encoded in the so-called Projection Principle of Government and Binding theory.

The view to be advanced here is antithetical to both the Projection Principle and the Principles and Parameters approach in general. The study will suggest that morphosyntactically specified VP constructions representing phasal aspects (a) feature grammatical, semantic and pragmatic conditions which are not predictable from the grammar at large and (b) bear meaning above and beyond that contributed by the particular verb serving as participial or infinitival complement. With respect to the latter point, we will in fact view the constructional template as imposing its meaning on that of the lexical 'filler'. The meaning of a given instantiation of the construction (a construct) arises from

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the interaction of lexical and constructional meaning. In general, the semantics of the open-class item will *accommodate* to that of the constructional context. Where there are conflicting specifications, the meaning of the construction overrides that of the relevant lexical item. A familar example of this type of override involves the manner in which the surrounding grammatical context effects a bounded or unbounded construal of a given nominally denoted entity. As Fillmore and Kay point out (1991), certain nouns, like *blanket*, which normally denote a countable (i.e., bounded) entity, receive a mass construal when embedded in grammatical contexts which evoke a 'portion' construal. One such context is the partitive construction: *You have a lot of blanket on your side*. Where the constructional context is more fully specified semantically, the meaning of the lexical item is accordingly augmented. Examples of augmentation involving the expression of action in motion scenes are given by Talmy (1985), Carter (1988) and Goldberg (1992b). Talmy, in a cross-linguistic survey of lexicalization patterns involving motion verbs, examines examples in which otherwise intransitive activity verbs are construed as agentive caused-motion verbs, e.g., *I blew the ant off my plate*. While the verb *blow* is ordinarily intransitive (**I blew the napkin*), when combined with a path expression (the locative complement *off my plate*), the verb evokes a scene in which the blowing action affects the location of an entity (the ant). For Goldberg (op. cit.), such examples represent instances in which the semantics of the lexical head-verb are modified in accordance with interpretive conditions associated with a particular argument-structure construction (in this case, a causative resultative construction).

In the present study, instances of constructional accommodation can be found in those examples in which the presence of adverbial elements, e.g., count adverbials, overrides inherent aspectual-class specification. Thus, while the expression *Manny was ill* counts as a state predication, the expression *Manny was ill three times last month* is an iterated-event predication. In the latter case, the grammatical context evokes an interpretation in which the state predication denotes a particular event type—a state phase or 'quantized state'; the

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count adverbial specifies the number of episodes of the type *Manny be- ill.* Herweg (1991b) discusses these examples under the rubric of *implicit bounding*: the state predication has an episodic construal despite the absence of a durational adverb (*for two days*) which would otherwise function to enhance the salience of terminal points. The episodic interpretation can be attributed to the manner in which the state predication accommodates to a grammatical context which specifies the presence of distinct applications of the predicate in question (*Manny be- ill*) within the period in question (last month). Since, via distributivity, a state predication is incompatible with enumerability of predicate applications (cf. section 1.2.2.1), the stativity feature of the predication is overriden by that construal favored by the constructional context, in which the predication depicts an iterated perfective situation.

Additional instances of constructional accommodation within the domain of aspectual grammar involve the interpretation of the participial-VP denotatum within the context of an aspectual construction. This following example concerns progressive aspect.

Certain authors (including Akmajian, Steele and Wasow (1979) and Langacker (1991)) have noted that there are conditions under which stative predications are compatible with a progressive construal. [3] One often finds examples like (2.1-2.2):

(2.1) Harry is liking your sister more and more.

(2.2) Myron is living in El Cerrito.

---

[3] Akmajian, Steele and Wasow in fact regard examples like (2.1) and (2.2) as evidence against McCawley's (1971) semantically based account of auxiliary ordering constraints. If statives can progressivize, there is no reason to presume that the state denoted by the perfect cannot also progressivize. Therefore, it is a syntactic rather than semantic constraint which requires that the progressive auxiliary *be* serve as complement to the perfect auxiliary *have*, rather than vice versa. This argument is misguided, insofar as it rests upon a false premise: that statives progressivize. The fact is, only a subclass of statives are amenable to a progressive construal: those that denote situations susceptible to change. As argued here, the state denoted by the perfect does not belong to this class.

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According to Langacker, statives amenable to progressivization are those which denote an unstable state of affairs—one which is subject to imminent or incremental change (cf. section 1.2.1). Under the heading of imminent change, we include transition to a state of 'failure to obtain', i.e., cessation. If, as in (2.1), the degree of affection exhibited by Harry is increasing each day, then the situation is evolving toward a point of culmination. The progressive construction denotes a state which obtains at some point within the development of the situation as it evolves toward an endpoint. The R-situation denoted in (2.2) represents a state phase (cf. section 1.2.2.1). State phases count as dynamic situations, because they have both duration and salient terminal points. That is, as indicated in section 1.4.2.2, state phases are classifiable as homogeneous activities. In both (2.1) and (2.2), the progressive presents a stative construal of a dynamic R-situation. But the R-situation is not *a priori* dynamic. The dynamic interpretation is imposed on the 'content verb' (the participial complement) by the progressive construction itself. That is, the stative content verb accommodates to the dynamic construal conventionally associated with the VP-complement denotatum within the progressive construction. Again, we find a rough spatial analogy in the interpretation of partitive constructions: partitive constructs like *a slice of trout* are interpretable only once one imposes an unbounded or mass interpetation upon the otherwise individuated entity denoted by the dependent NP. This interpretation is imposed by the partitive construction (cf. discussion above and Fillmore and Kay 1991).

Not every stative predication is capable of accommodating to the semantics of the progressive construction. There are certain states which, for a variety of reasons, resist such accommodation. Thus, for example, the state denoted by the perfect is not compatible with a progressive construal:

(2.3) *Harry is having washed the car.

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This example is to be distinguished from nonanomalous progressive sentences like *Harry is having the car washed*, in which *have*, in conjunction with a 'small clause' complement represents a causative verb (i.e., an accomplishment) (cf. Brugman 1988). On the basis of examples like (2.3), McCawley (1971) proposes that the ordering of auxiliaries in English is determined by the semantic combinatory potentials of the various aspectual operators (cf. section 2.2 and footnote 4). The progressive auxiliary cannot precede the perfect auxiliary simply because a progressive perfect is semantically proscribed. Why is this the case?

The perfect construction denotes a stative situation: a state of aftermath following the occurrence of some event. The anomaly of sentences like (2.3) arises from the fact that the state of aftermath can never change—it can neither culminate nor cease. Once Harry has fed the cat, all times subsequent to this event will necessarily be times at which Harry has fed the cat. The state denoted by the perfect is thus inherently nondynamic. Since the perfect state is not susceptible to change, the stative predicate denoted by the perfect construction cannot conform to the aspectual requirements imposed upon the content verb by the progressive construction.

2.3. Serial Application

Because phasal aspects are relational, they can be 'stacked' or serially applied. That is, the 'output' of one phasal operator can serve as the 'input' for another. [4] The simplest instances of serial application involve aspectual complexes like the progressive inceptive: *Alice is beginning to see it my way*. Here, the 'derived' inceptive event serves as the R-

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[4] Because we view phasal aspects as operators, we have recourse to derivational terminology like 'input' and 'output' in describing the semantics of these constructs. It should be kept in mind, however, that the model of grammar to be invoked here, Construction Grammar, is a monostratal theory in which no derivations are posited. By using this framework, we are able to describe the semantics of phasal aspects simply by presuming a distinction between VP-internal and VP-external syntax. In the case of the progressive, e.g., the aspectual class associated with the V' participial complement is perfective, while that associated with the auxiliary head is imperfective.

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situation with respect to which the progressive state is profiled. Things get somewhat more complex when we consider the manner in which constructional accommodation licenses certain otherwise unsanctioned combinations. Note sentence (2.4), a perfect progressive:

(2.4) Sid has been complaining incessantly.

The output situation produced by application of the progressive operator is a state (*Sid be- complaining incessantly*). We noted earlier that the perfect construction requires a perfective participial denotatum, and yet here the perfect accepts a progressive (i.e., stative) complement. Why is this so? Sentence (2.4) is an instance of the continuative perfect, to be examined in detail in chapters three and four. The continuative perfect requires an imperfective complement, but the R-situation receives an eventive construal in this constructional context. The eventive construal is that associated with a state phase, whether or not that phase is explicitly assigned a duration by means of a durational adverb like *for two hours* (cf. section 1.3.3.3). The continuative present-perfect signals that a state phase which began in the past continues up to (and perhaps beyond) the present.

2.4. Idiomaticity and Phasal Aspect

As we saw in section 1.4.3, we can describe phasal aspects with respect to the manner in which these constructs relate to a system comprising exponents of temporal relations (cf. figure 1.3). In this chapter, we note that aspectual meanings of this sort are expressed by means of grammatical constructions. These constructions have idiosyncratic semantic, grammatical and discourse-pragmatic properties. Therefore, in describing aspectual constructions, we may wish to separate *parochial* attributes from those which are *ecologically based*. Parochial attributes are features of grammar or interpretation which attach to a particular aspectual construction via convention, although such constraints may be semantically motivated to a greater or lesser degree. Ecologically-based properties are constraints upon use or interpretation which one can attribute to the manner in which a

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particular construct relates to a system of discourse-functional oppositions. [5] In the present case, this system comprises exponents of both tense and aspect. Certain ecologically based constraints are calculable via Gricean interpretive mechanisms. That is, they can be attributed to generalized conversational implicata arising from the existence of an ostensibly equivalent unused alternative form which would represent a less obscure method of conveying the message in question. Among these constraints are transderivational constraints like Kiparsky's (1982) Avoid Synonymy rule, decribed in section 2.1 above: a derived noun characterized by a relatively less productive derivational morphology will receive a highly restricted meaning (e.g., *brethren* versus *brothers*).

Loosely speaking, parochial constraints are those which are readily represented within a generative framework, while ecological constraints are those for which one might be tempted to construct a structuralist account (cf. Lambrecht 1991). We will examine examples of each constraint type. The following two subsections will focus upon interpretive and discourse-pragmatic constraints associated with, respectively, the inceptive and progressive VP-constructions.

2.4.1. The Inceptive Aspect

In English, the inceptive aspect is expressed by means of the 'semi-auxiliaries' *begin* and *start*. Each of these has a bipartite valence, consisting of a 'raised' subject and an infinitival (or gerundial) complement denoting the R-situation:

(2.5) Harry began to inflate the tire.

(2.6) It began to hail.

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[5] As will become clear in the course of this study, certain functional explanations must be seen as motivating the observed constraints rather than predicting them in any strict sense. Goldberg (1992a) notes the import of this distinction for first-language learning. Motivation is equated with after-the-fact inferencing. The learner constucts an explanation for certain observed constraints, rather than deducing those constraints from independent evidence.

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These verbs qualify as semi-auxiliaries (SAs) because they partake of semantic properties of 'true auxiliaries', while also exhibiting certain behavioral properties of main verbs. SAs resemble main verbs in the following respects: they do not undergo subject-auxiliary inversion, and they do not provide a locus for negative attachment; instead, SAs require '*do*-support' in each of these cases. SAs share with auxiliaries the following semantic property: they are subject-raising predicates. That is, the particular SA does not impose any thematic role specification upon the subject argument, this specification being supplied by the 'downstairs' verb. Evidence for a raising analysis of SAs is provided by examples like (2.6), in which the semantically empty ambient *it* occupies subject position. (Other evidence is provided by examples involving idiom-chunk subjects: *All hell began to break loose.*) An abbreviated representation of the inceptive aspectual construction (as instantiated by sentence (2.6)) is given in figure 2.1:

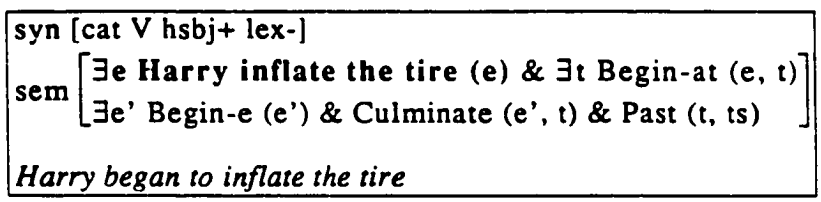


Figure 2.1: ***An Inceptive Construct***

This representation uses notational conventions of unification-based Construction Grammar (Fillmore and Kay 1991). In Construction Grammar, constituent structure is represented by box diagrams. Each box corresponds to a node within a tree-structure representation. The box in figure 2.1 is intended to correspond to the V'' or S node. Syntactic constituency and semantic interpretation are simultaneously represented. Each box contains an attribute-value matrix (AVM): a list of syntactic and semantic attributes (lexical category, maximality vis-à-vis lexical projection, etc.) with exactly one value assigned to each. Among these attributes are syntax (*syn*) and semantics (*sem*). Another

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such attribute is valence; the value of this attribute is the set of elements within the subcategorization frame of a lexical item or its phrasal projection.

Semantic composition is accomplished through unification of semantic feature structures. According to Fillmore and Kay (p. 5), "the unification of two feature structures A and B is the feature structure that contains each attribute-value pair of A and also contains each attribute-value pair of B". Some attributes may have an unspecified value, as indicated by empty square brackets []. A unification requirement upon two or more attributes is indicated by a indexed pound sign # next to each. The topmost semantic attribute of the construction is that which contains every atomic semantic value of the subconstituents.

The construct depicted in figure 2.1 contains the attributes *syn* and *sem*, each given feature values. As represented by the value of the *syn* attribute, the expression depicted qualifies as a nonlexical verb with the subject requirement fulfilled, i.e., a sentence. The *sem* value is given in abbreviated form; it does not include the valence structure projected from the verbal head and its complement. In this valence structure, the subject denotatum (*Harry*) is coindexed across the two verbal valence descriptions. The *sem* value as portrayed represents the union of aspectual features associated with head and complement. The first conjunct (shown in boldface) represents the projection of the Aktionsart of the content predicate (*inflate the tire*). Since this predicate is an event (an accomplishment), it is represented as a situational individual (cf. the discussion of Parsons' notation in section 1.3.2).

Alternatively, the content verb can denote a state: *Harry began to look sad.* In this case, the Aktionsart specification projected to the topmost *sem* value will contain an existential variable only over times; the state in question (*Harry look sad*) will be represented as a property of the existentially quantified interval. The remaining conjuncts within the topmost *sem* specification represent the semantic projections of the auxiliary head, including the Aktionsart and tense specification of the head.

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The operator *begin-at* pairs the event denoted by the infinitival complement with the event's time of inception. Following Dinsmore 1991, the operator *begin-at* is defined by means of the implicational definition of 'begin' found in (1.32). In this definition, the times of D-situation (T1) and R-situation (T2) are represented as overlapping phases. These two phases have the same 'left boundary' (i.e., inception point). However, the right boundary of T2 (its point of cessation) is subsequent to that of T1. As we will see in section 2.4.1.1, the fact that an event is assigned a time of occurrence (T2) does not entail that this event is in fact located in a history relative to the time of speech.

Following Herweg (1991a, 1991b), we equate the time of inception with an inceptive event (e'). The function *Culminate* equates the time of occurrence of *e'* with the time at which the R-situation begins. (It was noted in section 1.4 that the inceptive event *e'* represents an achievement predicate.) The time of culmination of the inceptive event is located in the past vis-à-vis the time of speech (ts). That is, two times—the time of occurrence associated with the inceptive event and the time of speech—are related by means of the *Past* operator. The former is anterior to the latter. The time of speech *ts* is defined as a context-sensitive variable over times (cf. Heny 1982, Richards 1982). As argued in section 1.3.2, the interpretation of the past is constrained discourse-pragmatically: the past time picked out by the past operator must be included within a certain relevant (or readily identifiable) portion of the past. This interval is the reference time (R).

2.4.1.1. *Modality.* In the construction schematized in figure 2.1, only the inceptive event is 'anchored' to a reference time: this event culminates within a time which is located with respect to the time of speech. The R-situation, which we denote by means of the tenseless sentence *Harry inflate the tire* is not paired with a time of culmination. [6] To borrow an expression of Partee's (1984), the culmination of that situation is 'left dangling';

[6] It may appear that this line of explanation does not extend to perfective sentences like *Harry began to run.* Since *run* is an atelic situation, the import of the term *culminate* here is somewhat obscure. We can assume that culmination in this case refers to the completion of a 'cycle' of running activity. I.e., an expanse of that activity sufficient to instantiate its occurrence.

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it is not located within a history leading up to the time of speech. This reflects the fact that the inception of an event at a given time does not entail the culmination of that event. [7] Sentence (2.5) presumably represents a valid assertion if the situation described is one in which Harry pushed down the handle of the pump once, and then fainted. Nevertheless, there is something that allows us to refer to such a situation as the beginning of an inflating event rather than, say, a pushing event. According to Dowty (1977, 1979), such reference is licensed by the modal character of operators like the prospective, inceptive and progressive. The term *modal* here refers to a semantic attribute familiar from modal logic (Hughes and Creswell 1968): the property of relating two or more possible worlds. Modal notions are expressed by modal verbs like *may*, as well as sentence adverbs like *possibly* and *certainly*. For example, *Irving may lose his job* can be taken to mean that there are some possible worlds (i.e., 'paths of evolution') containing conditions which satisfy the predication *Irving lose- his job* . With respect to the inceptive aspect in particular, we can say that the speaker, in uttering a sentence like (2.5), invokes an alternate reality (or possible world) in which the reference event in fact culminated. This situation can be represented by means of paired time lines, as in figure 2.2:

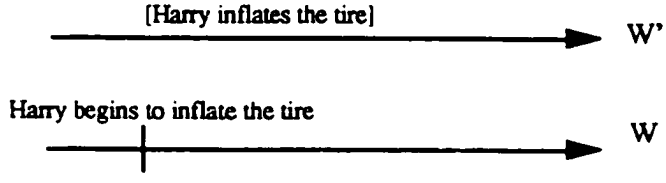


Figure 2.2

[7] In those cases in which the inceptive contains a stative content verb (e.g., *Harry began to look sad*), culmination is not at issue. The situation is wholly instantiated upon inception. That is, for any interval at which a state begins, that state also holds (owing to the property of distributivity discussed in chapter one). Therefore, the modal property of the inceptive is apparent only in cases in which the inceptive construction contains a perfective content verb. By 'modal property' in this context, we mean the property of evoking an alternate possible world in which the situation denoted by the VP complement culminates.

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In figure 2.2, the parallel arrows represent two possible worlds, or histories. In the evoked world (W'), the event of Harry's inflating the tire culminates. In the denoted world (W), some progress toward culmination occurs. Although not shown in the diagram, the inceptive situation has a positive temporal profile, i.e., it lasts for some period.

Dowty argues for a mixed temporal-modal model containing 'branching futures' rather than paired possible worlds. The D-situation (in Dowty's analysis, the situation denoted by the progressive) is located at some point prior to that point at which the time line 'branches'. It is difficult, however, to understand what it would mean for the time line to 'branch'. Certainly, speakers commonly invoke a metaphorical model with respect to which a branching-path schema is appropriate. In this model, progress through life is seen as progress along a path into the future. Various 'fates' are viewed as alternate destinations, and the selection of a given fate entails selection of one of a number of alternate routes. However, it makes little intuitive sense to presume that the time line itself branches. One time line runs through each possible future; clocks run at the same rate in each possible world. Thus, in the model portrayed in figure 2.2., time is a unidirectional 'path'.

In some sense, the model given in figure 2.2 is unnecessarily complicated. It seems that we need not invoke possible worlds in describing the semantic structure of aspectual constructions like the inceptive and progressive, which do not entail the culmination of event denoted by the participial complement. The modal model may be a valid method of describing the conditions under which an inceptive-form sentence can truthfully be uttered, but it says very little about the construal invoked by a speaker who chooses to employ the inceptive perspective in talking about a given situation. This construal, it seems, is contingent upon the speaker's possessing extralinguistic knowledge of a certain type. The speaker who chooses to use a sentence like (2.5) presumably knows or is ready to infer that Harry is engaged in the execution of a certain plan. The requisite inference is licensed insofar as Harry is attaining certain subgoals within this script (walking toward the tire,

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engaging the pump, etc.). In such cases, the fact that the speaker imputes certain intentions to Harry enables her to invoke the appropriate R-situation.

Of course, imputation of agency is not an absolute condition upon felicitous use of the inceptive. Note sentence (2.7):

(2.7) The steak is starting to burn.

In the case of (2.7), it does seem reasonable to claim that the speaker invokes a possible world in which the steak continues its broiling unabated. However, it is also necessary to note that the speaker's use of inceptive aspect here is conditioned by her evoking a certain mental model—that of the 'food-burning scenario'—as well as by his observation that certain subevents within that scenario have occurred (e.g., black smoke has been produced).

The property of instantiating a mixed temporal-modal model is not, as noted, an idiosyncratic feature of the inceptive aspectual construction. Modal meaning of this sort characterizes all aspects which do not entail the culmination of a perfective R-situation—prospective and progressive aspects included. Aspectual operators of this sort are *nonimplicative* (Karttunen 1971): the sentence *Harry was about to inflate the tire* does not entail that Harry inflated the tire, etc.

The nonimplicative property arises from the characteristic phase-relations given in (1.32). These relations provide a temporal basis for defining the operators *begin-at*, *during*, and *before*. In each case, the interval T1 is located at a point prior to the upper boundary of the interval T2, i.e., that subpart of T2 which represents the time at which the event denoted culminated. Thus, in the case of the prospective (e.g., *June was about to finish her project*), T1 is entirely anterior to T2; therefore, T1 is necessarily prior to the upper boundary of T2. In the case of the inceptive, T1 overlaps T2: T1 is equal to the lower boundary of T2, but prior to the upper boundary of T2. In the case of the progressive, T1

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is located within T2 (i.e., it is neither a final nor initial subinterval for T2). [8] Therefore, T1 is subsequent to the lower boundary of T2, but prior to the upper boundary of T2, as required.

In our semantic representations of these aspects, only the prospective, progressive or inceptive situation is linked to a reference time. The time of this event or state (T1) is represesented as an existentially quantified temporal variable, as shown in figure 2.1. The time of the R-situation is not within the scope of an existential quantifier. The R-situation is therefore unlinked to a time of occurrence. The reference event need not, however, be temporally unanchored, as we will see in our discussion of the formal representation of the perfect. In this representation, the R-situation is paired with a time of culmination by means of the operator *Culminate*. This representation reflects the fact that sentences like *My sister has planted some shrubs out front* entail that a shrub-planting event occurred at some particular point prior to now. The time of culmination is represented as a temporal variable within the scope of an existential quantifier, as is the time of the D-situation (the state of aftermath following culmination of the denoted event). The latter time is related by means of a tense operator to the time of speech.

2.4.1.2. *Constraints on content-verb aspect.* The inceptive construction imposes a number of restrictions upon the aspectual class of the R-situation, i.e., the VP-complement denotatum. These constraints are properly regarded as parochial restrictions, as they do not appear to characterize other aspectual constructions amenable to a 'modal' analysis like that schematized in figure 2.2. For example, as we will observe below, the progressive construction accepts VP-complements denoting homogeneous activities (e.g., *sit- in the corner*), while the inceptive construction does not.

The first constraint upon the inceptive which we will consider here involves the achievement-accomplishment distinction. It was noted in section 1.4.2.3 that achievements,

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[8] As we will note in section 2.4.2.2, it is difficult to discern whether the requirement that T1 not be equated with the initial subinterval of T2 is a semantic or pragmatic condition upon the progressive.

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unlike accomplishments, are construed as lacking a readily discernible internal part structure. For this reason, achievement predicates are commonly said to denote 'nonextended' or 'instantaneous' events. Hence, Dowty argues (1977), achievements are not typically compatible with the progressive construal:

(2.8) ??Harry was noticing that his cuff was frayed.

(2.9) ??Harry was sneezing. [9]

The progressive denotes a situation whose time of occurrence is properly included within the time at which the reference event occurs. Sentence (2.8) is peculiar because it is difficult to construe the noticing event as having any internal part structure. Noticing is a momentaneous transition: the perceiver-subject moves from the state of lacking awareness of some stimulus to a state of awareness of that stimulus. The odd nature of sentence (2.9) arises from the fact that while the sneezing event has identifiable subparts (nose wrinkling, inhaling, etc.), it simply does not last long enough to make identification of an internal subinterval feasible.

The validity of this type of explanation is, however, undermined by the existence of numerous cases in which achievements do in fact progressivize:

(2.10) Harry was dying when the paramedics came in.

(2.11) Mary was winning the race when Zola tripped her.

It seems that in cases like (2.10-2.11), the progressive framing of the situation induces the reader to construe the achievements in question as internally complex. In the case of (2.10), those subevents may consist of a serial loss of vital signs. In the case of (2.11), the

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9 *Sneeze* here is to be construed as semelfactive rather than iterative. That is, the predicate here is intended to represent an achievement rather than an activity.

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subevents may be a sequence of relational situations charted over time: Mary steadily increases her margin of victory or draws nearer to the finish line. Such examples appear to be instances of constuctional accommodation (cf. section 2.2). Where possible, the speaker construes the achievement predicate as having the complex internal part structure associated with the reference event evoked by the progressive construal.

Similar observations can made with respect to the inceptive. Inceptive achievements are typically acceptable insofar as the R-situation can be viewed as an internally structured or extended situation. Note the following examples:

(2.12) ??The vase was falling off the shelf when Harry came in.

(2.13) ??The vase began to fall off the shelf, but Harry caught it.

These sentences are acceptable only given a construal in which the event of falling consists of an identifiable preparatory phase, e.g., wobbling on the shelf or rolling across it. In the case of (2.12), the narrative viewpoint is situated within this prepatory phase. In the case of (2.13), the speaker's viewpoint is identified with this phase.

It is apparent, however, that the acceptability judgements given below differ from those noted in (2.8-2.10):

(2.14) I suddenly began to notice that Harry wasn't listening.

(2.15) Harry started to sneeze, but Marge quickly pinched his nose.

(2.16) ??Harry started to die a short while before the paramedics came in.

Example (2.14) indicates that the achievement predicate *notice* is compatible with an inceptive construal. By contrast, as shown by (2.8), this predicate is not compatible with a progressive construal. This difference can be explained as follows. We noted above that the inceptive construction, unlike the progressive, accepts stative content predicates. That is,

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the inceptive can be used to mark the inception or lower boundary of a state. Presumably, this function is evoked in (2.14). The inceptive event is identified with the time at which the speaker's state of awareness begins. In what way does sentence (2.15) differ from the anomalous progressive sentence (2.9)? The ephemeral nature of the sneezing event obviates an internal temporal perspective upon that event. However, one can readily evoke an inception point—the first point at which the physiological event at issue can be said to be 'underway' (Harry inhales loudly). Because this phase can be equated with an inceptive phase, the inceptive perspective and semelfactivity are compatible. Example (2.16) indicates that the inceptive construal is not compatible with that associated with the achievement predicate *die*. By contrast, as shown in example (2.10), this predicate is amenable to the progressive construal. This difference can be motivated in the following way. While it may be possible for the interpreter to invoke an 'extended' interpretation of the event of dying, akin to that described above, it would be difficult for that interpreter to imagine a particular point of inception for that event. In support of this kind of analysis, we may note that such examples as (2.17) are acceptable:

(2.17) [Keep those plants well watered.] That African Violet started to die when I forgot to water it for just one day.

The felicity of (2.17) can be attributed to a facet of extralinguistic knowledge evoked by the interpreter: dying of the variety in question has a fairly obvious point of inception. This point is presumably the time at which the leaves of the plant begin to shrivel or turn brown.

The foregoing discussion, then, has shown that the manner in which one can reconcile a particular aspectual perspective with the semantics of the class of achievement predicates will differ according to the conceptual content associated with that aspectual construction. The progressive construction requires that the particular achievement predicate be viewed as having a complex internal part structure, and that the event have sufficient temporal

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duration for the part structure to be manifest. The facts involving the inceptive are somewhat more complex. The felicity of an inceptive construal of a given achievement predicate will devolve upon the interpeter's ability to evoke an identifiable inceptive phase.

A further constraint upon inceptive aspect is exemplified in (2.18-2.19). Sentences (2.21-2.22) demonstrate that this constraint does not characterize the progressive aspect:

(2.18) *Harry began to live on 51st Street in 1970.

(2.19) *Buzz began to sit in the corner a moment ago.

(2.20) Marge began to run.

(2.21) Harry is living on 51st Street.

(2.22) Buzz is sitting in the corner.

As shown in (2.18-2.19), the inceptive construction does not accept VP-complements denoting homogeneous activities (cf. section 1.4.2.2). Example (2.20) demonstrates that the inceptive construal is compatible with the semantics of heterogenous activities like *run*. The examples given in (2.18-2.19) contrast with examples (2.21-2.22). The latter two sentences show that the progressive perspective can be applied to homogeneous activities. Indeed, this perspective is needed to license present-tense reporting (cf. section 1.2.2.2).

As noted, homogeneous activities can be analyzed as states phases or, equivalently, episodes of stasis. The validity of our identification of homogeneous activities with state phases is substantiated by the fact that explicitly bounded state-predications (those to which a duration is assigned by means of a *for*-phrase of duration) are also incompatible with the inceptive aspect. Thus, sentences like the following are peculiar: *Harry started to feel funny* (??*for an hour or so*). What makes state-phase predications resistant to the inceptive construal? The constraint itself is somewhat puzzling, in that the potential for an inceptive construal hinges upon the conceptualizer's ability to view the content-verb denotatum as a state of affairs which failed to obtain at times prior to reference time (cf. Herweg 1991b).

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The presence of an intrinsic lower bound is therefore an essential component of the inceptive construal. This fact leads us to the conclusion that it is the evocation of an implicit or explicit *upper* boundary (i.e., a time of cessation) which accounts for the anomalous nature of sentences like (2.18-2.19). As we have seen, state predications which do not evoke a time of cessation are generally welcomed by the inceptive construction:

(2.23) Larry started to feel sick.

(2.24) The trout in the fridge { started / were starting } to smell.

One exception to this generalization is the following: the inceptive is incompatible with copular state-predications. Thus, for example, sentences like the following are anomalous: **Henry started to be happy when he heard the news*. This constraint can be attributed to a lexical-blocking rule of the sort discussed by Aronoff (1976:43ff). In rules of this sort, the existence of a simple lexical form preempts a synonymous derived expression which we would otherwise expect to find. Thus, use of the inceptive with copular state-predications is ruled out, since there exists a lexical item denoting the inceptive event which leads to satisfaction of the complement VP: the inchoative copula *become*.

In fact, a similar type of explanation might be available for (2.18-2.19). There exist lexical synonyms which express the inceptive events denoted by those sentences, *viz.*: *Harry moved to Main Street, Buzz sat down in the corner*. Since, according to the lexical-blocking principle, lexical forms block forms derived by rule, the forms in (2.18-2.19) can be said to be prempted by the existence of less regular synonyms. However, this explanation is fairly unsatisfying, as periphrastic and lexical verb forms often co-exist with a given semantic domain. For example, we find periphrastic and lexical causatives (*kill* and *cause to die*), where—via quantity implicature—the more regular form is taken to encode a marked or nonstereotypical form of causation (McCawley 1978). With respect to the expression of inception in particular, we frequently find lexical-periphrastic doublets: *begin*

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to run versus *break into a run, start to fall asleep* versus *nod out, start to look/feel better* versus *improve*. While the members of each doublet may, via the Avoid Synonymy Principle (Kiparsky 1982), be assigned distinct communicative functions, there are no doublets in which, e.g., **start to sit on the couch* has a more specialized meaning than *sit down on the couch*

What accounts for the failure of the inceptive construction to accept content predicates which evoke an implicit or explicit time of cessation? The restriction is question appears to be an idiosyncratic feature of the inceptive construction—one that attaches to the construction by convention, and is not otherwise inferrable. While they are not readily justifiable in semantic or pragmatic terms, these constraints on content-verb aspect might not be unique to the inceptive construction. As I will show in section 2.4.2.1, the failure of the inceptive to accept VP complements representing explicitly bounded state phases can be attributed to a general restriction—described by Mittwoch (1988) with respect to the progessive—upon those phasal aspects which offer an 'internal perspective' upon the R-situation. Furthermore, the constraint evident in (2.18-2.19) appears to characterize the terminative construction as well:

(2.18') *Harry stopped living in Japan in 1970.

(2.19') *Buzz stopped sitting on the couch a few minutes ago.

The above data suggest that the constraint barring complement denotata which represent homogeneous activities is a general restriction attached to those aspectual constructions which 'highlight' the upper or lower boundary of the R-situation, i.e., the inceptive and terminative constructions.

2.4.1.3. *Inception and causality*. The inceptive construction has certain conventionally assigned communicative functions. These, like the aforementioned constraints, represent parochial features of that aspectual complex. These functions are not strictly predictable

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from the semantic stucture associated with the construction. The learner must therefore come to recognize that they are part of a conventional repertoire of uses. The function we will focus upon here is the following: among activity verbs of a certain class, the inceptive is used to signal that the event in question is causally connected to some prior event. The verb class in question contains activity verbs denoting outbursts or manifest physiological reactions of various kinds: *laugh*, *cry*, *scream*, *shiver*, *sneeze*, *cough*, *yell* and *bark* (of a dog). All of the verbs mentioned here have achievement readings (e.g., *bark* may indicate a single woof, or *cry* a closely circumscribed episode of tear production). These verbs have activity readings when construed as iterative or, in some cases, durative (e.g., yelling may consist of several verbal outbursts or a protracted cry). It is the activity reading that the inceptive constructioninvokes. As we saw in section 2.4.1.2, the inceptive construction has a marked preference for VP-complements denoting extended events or states. Note the following examples:

(2.25) Marge told him the news and Bert suddenly { ?laughed / started laughing }.

(2.26) Bill took one look at her haircut and { ?cried / started crying }.

These sentences denote a causal relationship between the first-mentioned event and the second event. Sentence (2.25), for example, indicates that Bert's expression of amusement was triggered by Marge's announcement. As shown, the inceptive appears more appropriate in such contexts than does the simple past (i.e., simplex perfective aspect). One may attempt to account for this difference by noting that that simple past yields an episodic or achievement reading of the relevant predicate, whereas the inceptive evokes an activity interpretation. Note, however, that evocation of the activity reading is not a sufficient condition for the use of the inceptive in causal contexts:

(2.27) Mom watched our dance performance and { ?started chuckling / chuckled } merrily.

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Sentence (2.27) implies that Mom's expression of amusement was induced by her witnessing the dance performance. Despite the fact that a causal relationship is evoked, the inceptive is inappropriate here, as indicated. The peculiarity of the inceptive can be attributed to the fact that the sentence denotes continuous rather than sequential causation: the 'outburst' temporally overlaps the causal situation, rather than following it. Where sequential causation is not evoked, the inceptive is not welcome. This restriction account for the inapplicability of the inceptive perspective to the paired assertions in (2.28), a formula often ironically invoked by the moviegoer, upon exiting the theater, to express his or her emotional response to the film which he or she has just viewed (2.28):

(2.28) I laughed, I cried.

(2.29) ??I started to laugh, I started to cry.

The peculiarity of (2.29) can be attributed, in part, to the fact that the emotional reactions described occurred in the course of viewing the film, and that therefore the scenario evokes is one of continuous rather than sequential causation. Sentences like (2.29) also illustrate a further use condition upon the causal inceptive: the outburst denoted must represent a reasonably surprising event. The 'unexpectedness condition' motivates certain exceptional uses of the causal inceptive, in which the motivation for the outburst is obscure. In such cases, the outburst appears to represent an inappropriate response, and therefore constitutes a noncanonical event. Compare the following two sentences:

(2.30) The priest was finishing the eulogy and suddenly Harry { ?laughed / started laughing }.

(2.31) I told Marge the joke and (as I expected) she { laughed / ?started laughing }.

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In the inceptive is appropriate in (2.30), in which the laughing event is surprising under the denoted circumstances; it is not appropriate in (2.31), in which the laughing response was an anticipated response to a particular stimulus. To summarize, then, the following are the use conditions upon the causal inceptive:

(2.32) a. The caused event is a physiological/emotional outburst; it represents a protracted situation i.e., an activity or iterated achievement.

b. The causal relationship between stimulus and response events is one of sequential rather than continuous causation.

c. The response is construed as unexpected, or at least not readily predictable under the denoted conditions.

The causal use of the inceptive, as well as the particular use conditions described in (2.32), are not unpredictable from the semantic features described in the beginning of this section. The existence of the causal function, and the manner in which it is constrained, must therefore be learned along with other semantic and pragmatic features conventionally attached to that morphosyntactic configuration expressing the inceptive aspectual perspective.

2.4.2. The Progressive Aspect

The syntax and semantics of the progressive construction can again be schematized by means of the Construction Grammar notation exemplified in figure 2.1. In figure 2.3, as in figure 2.1, we model a particular instance of the construction (sentence 2.22), showing its topmost *sem* and *syn* values rather than the *sem*, *syn* and valence values of the auxiliary head and participial complement. (These percolate up to the topmost level of structure within the unification-based framework employed by Fillmore and Kay 1991). This construct represents a maximal projection of VP, that is, a sentence:

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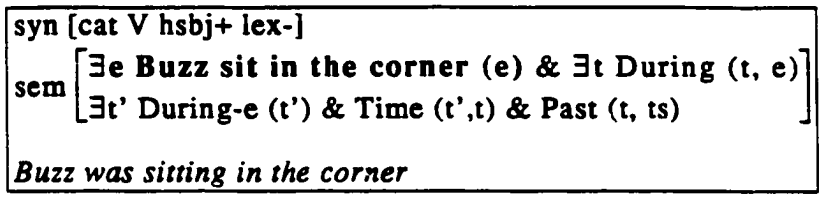


Figure 2.3

In figure 2.3, the operator *during* relates the existentially quantified temporal variable *t* to the R-situation. This relation is that defined in Dinsmore's implicational definition (1.32) or Herweg's definition of the operator PROG (1.28). The interval denoted by the bound variable *t* is a proper subpart of the interval during which the R-situation occurs. The D-situation is a state: *During-e*. In accordance with the analysis of Herweg (1991a, 1991b) adopted in chapter one, this state is represented as a property of a period of time, the existentially quantified time variable *t'*. That is, the state predication *During-e* is predicated of the temporal variable *t'*. The bivalent operator *Time* relates the time of the progressive state to the time *t* which is a proper subpart of the (perfective) R-situation. This operator equates the two times: the time of the targeted subpart of the R-situation is a time at which the progressive state goes on. Finally, the relevant time of the progressive state (*t'*) is related to the time of speech by means of the operator *Past*.

The constraints to be discussed with respect to the progressive construction involve adverbial co-ocurrence and textual interpretation. I will introduce these constraints by posing the following problem: given that the progressive construction denotes a state, we must explain why it fails to behave like a state predication in the following respects: (a) it does not readily accept durational adverbs and (b) it does not license an inceptive interpretation in temporal discourse.

In general, speakers report that progressive-form activity sentences like the following are peculiar:

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(2.33) ?Larry was talking on the phone with Joe yesterday for three hours.

(2.34) ?Coleen was working on her novel last week for two days straight.

Speakers are far more likely, it seems, to use the simple past (i.e., perfective aspect) in asserting the past occurrence of activity phases. That is, as noted by Mittwoch (1988), the (past) progressive does not combine felicitously with durational adverbs. [10]

The second constraint involves the manner in which progressive sentences are interpreted in texts. As we observed in section 1.2.2.4, stative sentences are commonly given an inceptive interpretation in temporal discourse. As Dowty (1986) points out, however, one cannot readily interpret progressive sentences in this fashion. Note sentence (2.35) (= Dowty's (35)):

(2.35) John entered the president's office. The president was writing a letter. The president's advisor signaled to John to take a chair.

It is extremely unlikely that an interpreter would construct a model of the described sequence of events in which the president's writing of the letter commenced after John entered the room. That is, as Dowty argues (p. 54), "the possibility of an inceptive interpretation is extremely remote with progressives". By contrast, we observe that in such texts as (1.17), repeated here for convenience, an inceptive interpretation necessarily attaches to the state predication:

(1.17) A water balloon hit the pavement near Harry's feet. Harry was soaking wet.

[10] Our investigation is limited to progressives containing activity-verb content predicates. As noted in section 1.4.2.1, activities share with states the subinterval property. Presence of this property is a necessary prerequisite for the presence of a durational adverb. The durational adverb specifies that all times with the denoted interval are times at which the situation in question holds (cf. Heny 1983, Mittwoch 1988 and Richards 1983). Since the progressive rejects stative R-situations (unless construed dynamically), we examine only the *dynamic* subinterval class here.

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Given (1.17), the cooperative interpreter will create a representation of the text in which the state encoded by the second assertion began after the culmination of the balloon-tossing event. In section 1.2.2.4, I argued that the inceptive interpretation of the state predication in (1.17) is not linguistically determined, in that it is a necessary feature of the interpreter's representation of the text only under the assumption that the interpreter will apply relevant extralinguistic knowledge (of water-balloon tossing events and their consequences), and perhaps that principle of text interpretation which Kay (1983) labels the Parsimony Principle.

Barring the interpreter's invocation of extratextual knowledge, the inceptive interpretation of the the sentence *Harry was soaking wet* is as feasible an interpretation as that in which Harry's wetness obtained prior to and throughout the ocurrence of the water-balloon tossing event. The availability of the latter interpretation was attributed to an inferential property of the imperfective aspectual class, described here by means of the following metaphorical motto: 'state predications leak'. The state of affairs denoted by a tensed state predication need not be interpreted as wholly contained within (or 'exhausted by') the reference time at which that state of affairs is located. Considerations of pragmatic feasibility aside, the state of affairs denoted by a tensed state predication may be interpreted as ongoing at all reference times invoked in the text, whether these times are invoked prior to or subsequent to the time at which the speaker asserts the relevant state-predication. In section 1.2.2.4, we noted that the potential for 'leakage' is attributable to the properties of distributivity and cumulativity.

Our identification of progressive sentences with state predications is validated by the fact that sentences of the former type similarly license that interpretation in which the situation denoted obtains at reference times both anterior to an subsequent to the reference time of the particular progressive predication. That is, progressive situation can be viewed as overlapping any number of events in the text. In (2.35), for example, the writing

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situation is construed as a situation which overlaps John's entrance, and probably also persists through the advisor's signaling John to sit down. The difference between progressive sentences like that contained in (2.35) and stative sentences like that contained in (1.17) is that the progressive situation denoted in (2.35) is *necessarily* viewed as overlapping with that event denoted by the immediately preceding sentence. That is, as we noted earlier, the progressive sentence given in (2.35) has no inceptive interpretation. In this respect, stative sentences and progressive sentences differ.

Let us now examine the two constraints invoked—involving the acceptance of durational adverbs and the potential for an inceptive interpretation—in the order in which they were introduced.

2.4.2.1. *Progressivity and bounding.* This investigation will require us to review our earlier analysis of durational adverbs (sections 1.2.2.1 and 1.3.3.3). Durational adverbs were said to perform an individuating or perfectivizing function when combined with a state predication. In terms of a derivational model, a durational adverb is an operator which transforms a state into an event of a particular kind. This analysis is justified in the following fashion: when scoped by a durational adverb, the stative predication lacks the subinterval or distributivity property: no subpart of Harry's being in the basement for ten minutes counts as an instance of being in the basement for ten minutes. Furthermore, the durationally bounded state, like an event, does not subsume its reference time (cf. section 1.2.2.4). Consider the following examples:

(2.36) Harry was depressed when he watched *La Dolce Vita.*

(2.37) Harry became depressed when he watched *La Dolce Vita.*

(2.38) Harry was depressed for two days when he watched *La Dolce Vita.*

In sentence (2.36), a state predication (*Harry be depressed*) is related to a time denoted by the *when*-clause. This relationship is vague. The interpreter may imagine that Harry was

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depressed for some period prior to the time at which he watched the movie. Alternatively, he may imagine that Harry's depressed state began during or after that time at which he saw the movie. According to Vlach (1981), the availability of the first interpretation is an 'acid test' for stativity. We can note that in (2.37), a perfective (achievement) predication does not license this interpretation: Harry's depressed state necessarily began after the viewing of the movie. The affinity between eventive predications 'proper' and state phases ('pofective events' in Herweg's terminology) becomes clear when we compare (2.37) with (2.38). In the latter case, as in the former, the sole licensed interpretation is that in which Harry's depressed phase began after the viewing of the movie. [11] This parallel provides further support for an analysis in which bounded-state predications are viewed as event predications. Like event predications, bounded-state predications are necessarily interpreted as denoting situations which occur or go on following the time evoked by a *when*-clause.

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[11] Some speakers report that sentence (2.38) has a possible 'past-perfect' interpretation: Harry *had been* depressed for two days when he saw the movie. That is, the time at which the movie was viewed is equated with the upper boundary of an interval in which Harry's depressed state obtained. The availability of this interpretation signals that in some dialects of American English, the simple past has taken over certain functions of the past perfect. Further evidence for this encroachment is found in examples like the following:

(a) Serb mortar crews targeted a pick-up soccer game...on Tuesday...An hour after two shells slammed into the crowd of spectators, the soccer ball remained on the parking lot near Sarajevo airport where the game was played. —Austin *American Statesman* 6/2/93

In sentence (a), the time at which the soccer game was played is understood to be prior to the past reference time evoked by the predication *The soccer ball remained on the parking lot*. The former time is therefore an event time prior to a past reference time. We would thereby expect the boldface relative clause in (a) to have the form of a past perfect: *where the game had been played*. However, the relative clause takes the form of a preterite. Sentence (a) therefore demonstrates that in certain dialects of American English, the function of indicating past-in-past time reference, traditionally associated with the past perfect, has been taken over by the simple past.

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With respect to the claim that bounded-state predications represent event predications, it is important to keep in mind that 'derived' event predications, i.e., event predications which qualify as such by virtue of the application of a perfectivizing operator to an underlying state predication, will not pattern exactly like 'simplex' events. One divergence is exemplified in (2.39-2.40):

(2.39) The police arrested the suspect at three.

(2.40) ??The suspect was in custody for two hours at three.

In interpreting (2.39), we identify the time of culmination of the arresting event with that time described by the punctual time adverb *at three*. This interpretation does not seem to be available in (2.40). Speakers who accept this sentence have typically evoked a 'past perfect' interpretation, in which the phase of two hour's custody ended at three (cf. footnote 11). For speakers who 'preserve' the past perfect, that reading is apparently unavailable. Certain speakers accept an inceptive interpretation of (2.40), in which the state phase (*The suspect be- in custody for two hours*) begins at three. For most, however, the sentence is *a priori* anomalous: the two adverbial specifications—one durative, one punctual—appear to 'clash'. The processing difficulty inherent in reconciling the two adverbial specifications may account for the unwonted nature of sentences like (2.40). Upon encountering a sentence like (2.40), the interpreter cannot be certain if the reference time of the predication is to identified with (a) an interval inclusive of that interval denoted by the adverbial expression *for two hours*, or (b) the time denoted by the punctual past-time adverb *at three*, which would represent a point within the time at which the state in question obtains (under the assumption that states properly include their times of evaluation). A state bounded by means of a durational adverb has a point of culmination, but, owing to the equivocal nature of the reference-time specification evoked by sentences like (2.40), the time of culmination is not apparently identifiable by means of a punctual time adverb.

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At this point, it is helpful to recall Herweg's claim that the denotata of state predications, like those of mass nouns, may be bounded by extrinsic or intrinsic means. This argument is summarized in section 1.2.2.1. A durational adverb explicitly individuates a state, but there are other 'noncompositional' means of performing this conceptual operation. As we saw earlier, Herweg expresses for the difference between the individuated intepretation of a state *simpliciter* and the individuated interpretation *cum* adverbial extent-measurement by presuming an individuating function (the 'pofectivizing' function) distinct from that attributed to the durational adverb. As noted in footnote 18, chapter one, the durational adverb is equated with a function *Qu* ('quantity'), which assigns a specific duration to the state phase in question.

Let us now return to data given in (2.33-2.34), and the manner in which the progressive construction interacts with durational adverb-modification. This interaction has been examined in some detail by Mittwoch (1988). Mittwoch observes that such sentences as the following are peculiar:

(2.41) ??When I arrived, it was raining for two hours.

Sentence (2.41) cannot be used to report that the speaker arrived in the midst of a downpour that was later discovered to have lasted two hours. This fact, she notes, impeaches Dowty's (1977, 1979) analysis of the progressive, which invokes a model containing 'parallel worlds'. This analysis was briefly described in the section dealing with the modal nature of the inceptive aspect (2.4.1.1). The truth conditions proposed by Dowty for the progressive are given in (2.42):

(2.42) PROG (A) is true in M at (i,w) iff there is an interval j such that $j \supset i$ and i is not a final subinterval for j, and there is a world w' for which A is true at

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> (j,w') and w is exactly like w' at all times preceding and including i. (Dowty 1979:146)

Under this analysis, the truth of the progressive sentence is dependent upon the truth of the base sentence (A) in some possible world. As noted, this analysis accounts for the intuition that progressive sentences, like inceptive sentences, have a modal character. The sentence *Tom is drawing a dolphin* is judged true when the evaluator is assured that, all things being equal, a dolphin representation (as opposed to a whale representation, etc.) will come about (i.e., should Tom's drawing endeavor reach its natural conclusion). To use a metaphor commonly invoked by those seeking an intuitively plausible description of possible-world semantics (cf., e.g., Allwood, Andersson and Dahl 1979), let us view the parallel worlds invoked by Dowty as alternate film portrayals of a given state of affairs, say the procedure that Tom follows when he draws a dolphin. While the frames of the two films are temporally ordered with respect to one another, no frame of the first film is temporally ordered with respect to any frame of the second film. However, we can say that the clocks which appear in both films are synchronized; that is, the time at which Tom completes draws the dolphin's right flipper in one film is the same time at which he performs this action in the other world. The films differ with respect to the amount of footage devoted to the event which they are intended to depict. While one film covers the event from start to finish, the other ends before the artist has completed his rendering. The incomplete film corresponds to the depiction associated with the progressive construction; the complete film corresponds to the alternate possible world invoked in the interpretation of a progressive sentence.

Mittwoch argues that a proponent of Dowty's modal-semantic analysis of the progressive would have difficulty accounting for the anomaly of sentences like (2.41). The event denoted by the base sentence *It rain for two hours* is surely capable of culminating in some possible world, but the progressive cannot denote a proper subpart of this R-

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situation. This fact can be stated as the following restriction: the R-situation evoked by the progressive cannot represent an explicitly bounded state phase. Is there a semantic motivation for this constraint? Mittwoch suggests the following explanatory analogy:

> [interpreting a progressive sentence] is rather like viewing a line on a piece of paper through a window cut out of a second piece of paper superimposed on the first. [...] The line extends right through the window, so that you cannot tell whether there is more of it covered by the top piece of paper at either end. In these circumstances, it would be futile to try to measure the line since you would only be measuring the window. (1988:230)

In our terms, the line represents the R-situation, the window the D-situation. However, the constraint in question cannot be stated as a parochial restriction upon the progressive. It seems this restriction is generally applicable to those aspectual constructions which denote a D-situation representing a proper subpart of the R-situation. No such aspectual construction accepts a participial complement denoting an explicitly bounded R-situation. Consider the inceptive and terminative sentences in (2.43):

(2.43) On Wednesday, Harry { stopped / started } feeling ill (*for several days).

These sentences cannot be used to denote (respectively) the terminative or inceptive phase of an illness that was later discovered to have lasted several days. (The reader is asked to ignore a reading of the terminative construct in which the state of regained health lasted several days.) The constraint exemplified in (2.43) has a reasonably clear semantic basis, expressed in Mittwoch's analogy: one cannot assign a duration to the R-situation because what is actually denoted by the particular aspectual construction (inceptive, etc.) is a subphase of that situation. Since the R-situation is not the state of affairs which the

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construction prompts us to attend to, it is not subject to measurement. The constraint barring durational specification in sentences like (2.43) also seems to have a functional basis, at least when applied to the progressive construction. As we have discussed, the progressive provides an imperfective perspective upon an event. This perspective, as argued in section 1.4, entails that the endpoints of that event are 'defocused'. By presenting the R-situation as one having particular temporal bounds, one defeats the purpose of the progressive construal.

The availability of a semantic or pragmatic line of explanation should not, however, be taken as evidence that the constraint in question simply 'falls out' from the semantics assigned to the progressive or inceptive constructions. One could readily *conceive* of a progressive or inceptive construal of a bounded state. That these construals are proscribed is something that one learns in acquiring the grammar of aspect. The explanations which the learner constructs in order to account for the existence of the time-specification constraint are abductive, or after-the-fact inferences.

2.4.2.2. *Progressivity and the inceptive interpretation.* With respect to examples like (2.35), Dowty argues:

> progressives differ from statives in that the possibility of an inceptive interpretation is extremely remote with progressives, and thus the overlapping interpretation with surrounding discourse is highly consistent with progressives. (1986:54) [12]

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[12] Dowty also mentions a class of progressive sentences that seem to represent counterexamples to this observation. He considers examples like (a) (= his (37)):

(a) The president began the interview in a coldly official manner, much as Mary had expected. But the next thing she knew, the president was offering her the ambassador post.

Here, the progressive sentence appears to encode an event which began immediately after the last-mentioned event. However, as Dowty notes, the event in question is relativized to a particular type of subjective perspective. The progressive here encodes an event that began prior to the time at which the

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The inceptive interpretation of a progressive sentence would require that conditions which define the progressive phase or D-situation do not rule out a situation in which the proper subpart is the initial subinterval of the R-situation. The conditions upon Dinsmore's *during* relation (1.32) or Herweg's PROG relation (1.28) appear compatible with an inceptive interpretation of this sort. That is, the interval 'targeted' by the progressive can be contained within a more inclusive interval and nevertheless represent an *initial* subinterval. We can imagine the following (rough) spatial analogy for this situation: a tennis ball can be said to be wholly contained within a plastic tube when it is located at the top of this container.

Dowty points out that one could easily augment the truth conditions for the progressive by stipulating that the subinterval in question (the time of the D-situation) cannot be the initial (or final) subinterval of the event denoted by the participle (i.e., the R-situation). Can the proposed stipulation be regarded as part of the semantics of the progressive or, more accurately, of the *during* relation? Dowty's 'bet test' indicates that this stipulation is probably not a semantic constraint. If I bet someone that Harry will be writing a letter at 2 PM, and we discover that Harry *began* writing at exactly that point, it seems that I have won my bet.

Given the apparently nonsemantic nature of the proposed stipulation, we are led to regard it as a pragmatic condition. That is, one could attribute the lack of an inceptive interpretation for progressives in texts like (2.35) to a quantity-based implicature. The implicature in question can be said to arise from a hearer-based inference of the following

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protagonist realized what was happening. That is, the inceptive construal arises from our understanding that the time for which the D-situation is asserted to obtain is the time for which the protagonist first became aware that the overall event was happening. In other words, the R-situation invoked is an event whose occurrence the protagonist had not expected. Dowty argues (p. 56), "the succession of reference times in a narrative can be exploited by the author to indicate the succession of perceptions of events and states by the person from whose point of view the narrative is constructed".

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kind: if the narrator had known that the perfective situation denoted by the progressive sentence began at the point for which he is asserting that this situation obtains, then he would have used a more explicit aspectual means of indicating this fact. That is, the speaker would have used the inceptive aspect (*The president began writing a letter*). Use of the progressive in such contexts as (2.35) implicates that the inceptive could not have been used appropriately. (Cf. Horn 1984 for a survey of the means by which quantity-based reasoning affects syntactic and lexical interpretation.)

The progressive's lack of an inceptive interpretation then represents an ecologically based constraint (cf. section 2.4). That is, the constraint in question arises from an inference made on the basis of an available alternative aspectual construal that the speaker did not choose to access. As argued, ecological constraints of this sort differ from parochial constraints in that the latter are calculable, the former conventional. Our survey of semantic restrictions upon the progressive construction has illustrated constraints of both kinds.

Our investigation of the progressive has shown that certain facts, which ostensibly invalidate our equation of progressive aspect and stative aspect, can be attributed to the presence of construction-specific semantic constraints. In chapter four, we will see that similar observations can be made with respect to the perfect construction.

2.5. Conclusion

In this chapter, we have investigated the hypothesis that the meanings of aspectual operators are expressed by means of grammatical constructions. We began this investigation by exploring of the view of grammar advocated by proponents of Construction Grammar: the grammar is a structured inventory of form-meaning pairings; these pairings exhibit varying degrees of internal complexity. The constructional analysis of aspect was shown to provide a straightforward account of an interpretive phenomenon here labeled *constructional accommodation*. In addition, we noted that aspectual constructions qualify as formal idoms: these constructions are characterized by idiosyncratic conditions upon use, co-occurrence and interpretation. These conditions were here labeled *parochial*

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constraints. We described two aspectual constructions, the inceptive and progressive, with respect to constraints of this sort. Finally, we noted that certain constraints upon use and interpetation are best explained by invoking a structural framework, in which the system of tense and aspect represents a system of discourse-pragmatic oppositions. With respect to the progressive construction, we examined the manner in which interpretation is constrained by a quantity implicature arising from the speaker's failure to employ a more appropriate (or more informative) aspectual framing of the propositional content in question. In the next chapter, we will make further reference to this mode of explanation, and the theoretical commitment which underlies it. We will investigate the nature of the discourse-pragmatic contrast between simple past and present perfect, and explore the claim that features of grammar and use associated with the present perfect represent ecologically based constraints.

The perfect presents complexities of a sort unseen in the foregoing case studies of aspectual constructions. These complexities arise from the fact that the semantics attributable to the perfect as an aspectual marker cannot be extricated from the semantic contribution of the particular tense specification associated with the auxiliary head. Separation of tense from the properly aspectual component of the meaning of a given aspectual construction is ordinarily possible. In the case of the progressive, for example, the contrast between past progressive (*The dog was howling*) and present progressive (*The dog is howling*) obviously arises from the temporal location of the progressive state, i.e., whether it is prior to or simulataneous with the time of speaking. One aspectual marker (the progressive) accepts past and present tense specifications. The semantic contribution of the tense inflection can be 'factored out' when one considers those parochial and ecologically based constraints which attach to the progressive construction *per se*.

By contrast, in the case of the perfect construction, it appears that we must recognize grammatical, semantic and discourse-pragmatic constraints linked exclusively to the *present perfect*. The failure of these constraints to attach to other members of the perfect

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paradigm—the past perfect and future perfect—cannot be attributed to the distinct tense-inflections linked to each member. One such constaint is that barring past-time adverbial reference: present-perfect sentences like **Two local inmates have escaped at dawn* are anomalous, while analogous past-perfect sentences are not (e.g., *Police confronted two inmates who had escaped at dawn that day*).

Given such data, we will presume that the distinct tense inflections in question constitute distinct constructions. Furthermore, I will argue the present perfect itself lacks a unitary semantic interpretation; we will explore the hypothesis that the present perfect is ambiguous, and that distinct readings feature idiosyncratic conditions upon grammatical co-occurrence, discourse function and interpretation. In sum, the following chapter will provide evidence that the perfect system cannot be said to represent a compositional interaction of tense specification and aspectual meaning. The perfect system will be depicted a complex of related constructions. In what follows, we will investigate the manner in which inheritance links (Lakoff 1987, Goldberg 1992b) can be used to represent these relations.

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Chapter Three: The English Perfect System

3.1. Compositionality

For those of us who have been subjected to English grammar lessons, the tripartite nature of the English perfect system is nearly as familiar as the three tense oppositions on which it is based. Upon request, most of us can readily produce examples of the following kind, illustrating the present perfect (PrP), past perfect (PaP) and future perfect (FuP):

(3.1). a. Harry has accepted the job.

b. Larry had already left when Marge came.

c. By the time you read this, I will have left for Brazil.

It is not difficult to discern an overall unity in this system. Each perfect type denotes a relationship of temporal anteriority: some event occurred before some time point. The distinct perfect types arise from the different locations of this temporal reference-point. In the case of (3.1b), for example, this reference point is in the past. Therefore, as a reasonably insightful informant will report, the past perfect indicates pastness with respect to the past. The facility with which most informants can analyze these perfect meanings arises from the transparent manner in which the two components of meaning—temporal anteriority and reference-point location—map to the morphosyntactic parts of the construction. The former meaning component is supplied by the past participle, the latter by the tense of the auxiliary *have*.

The meaning of a given perfect type then appears to be a straightforward combination of tense and aspect. A number of analysts, including Klein (1992), have argued that the meanings of the three perfect types are compositionally derived, i.e., the interpretation of a given perfect type is a function of the tense of the auxiliary combined with the anteriority relation denoted by the participle. Klein's analysis invokes Reichenbach's (1947) system of temporal relations. This system accounts for the properties of 'complex tenses' like the

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perfect and prospective by invoking the notion of reference time (R)—a concept investigated in some detail in section 1.2.2.4. In accordance with Reichenbach, Klein assumes that the distinct perfect types can be captured by positing three distinct relations between R and speech time (S), and a uniform relation between R and event time (E): E precedes R. [1] Klein's analysis of the perfect system is schematized in (3.2), where (<) indicates a relation of temporal precedence:

(3.2)

	Tense Component	Aspect Component
Present Perfect	R=S	E<R
Past Perfect	R<S	E<R
Future Perfect	R>S [2]	E<R

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[1] As Klein observes, *event time* is more accurately termed *situation time*, as the situation denoted by the VP complement may represent a state rather than an event. For example, in the perfect sentence

(a) I've been ill.

the content verb *be-ill* denotes a state. We will, however, use the term *event time* (E), because (a) this term is familiar, owing to fairly widespread knowledge of Reichenbach's work, and (b) we will encounter evidence that the content verb, whether or not it is intrinsically stative, receives a perfective construal within the context of the perfect construction. In the case of the so-called continuative perfect, exemplified in (a), the event is a state phase or 'pofective event' (Herweg 1991a, 1991b).

[2] As many analysts point out, the Reichenbachian representation of the FuP leaves unspecified the relationship between event and speech times. That is, while E necessarily precedes R and R necessarily follows S, the relation between E and S is left open: E may follow S or precede S. This indeterminacy captures a vagueness in the interpretation of the FuP form itself. While the commonly adduced FuP examples are those in which E is in the future with respect to S (cf. example (3.1c)), one also finds examples of the following sort:

(a) [Said as a party guest knocks]: I know Harry will have bought some wine.

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Binnick (1991:268) argues that there is ample evidence in favor of such a compositional treatment of the perfect. He notes that in English and other languages, the perfect is compatible with all tense inflections. In French, for example, we find *il a mangé* (lit. 'he has eaten') alongside *il avait mangé* (lit. 'he had eaten'). This parallelism suggests that the present and past perfects are combinatory variants of one another. Further, he argues, in English, perfect meaning appears to be independent of temporal inflection; it attaches to nonfinite verb forms, e.g., in gerunds (*having gone*) and to infinitival complements of modals (*may have gone*, *will have gone*, etc.).

Of course, the compositional analysis becomes somewhat less compelling when we consider the fact that the meaning of the whole is computed from *idiosyncratic* meanings assigned to the parts in this constructional context. Thus, as Parsons argues (1990), the meaning of the perfect participle cannot be equated with the meaning of the formally identical passive participle. The latter is formed on transitive stems only. The same can be said of resultative participles like *cooled* in *the cooled soup*; we do not find participial adjectives like *gone* in **the gone train* (although such participles do occur in the partially productive copular resultative construction: *Harry is gone.*) Likewise, the perfect auxiliary *have* must be assigned a meaning distinct from that found, e.g., in experiencer-subject constructions like *I had my suitcase stolen* (cf. Anderson 1982, Brugman 1988). If there is widespread homophony, semantic composition must somehow select the right meanings in the constructional context at hand.

Certainly, we cannot fail to acknowledge that the meaning of the perfect construction is to a large extent resolvable into the meanings contributed by a past-tense marker (the past participle) and a tensed auxiliary denoting the 'reference point' with respect to which

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Examples like (a) can be characterized as epistemic, insofar as they denote a past event (a wine purchase) whose occurrence will be verified at a future reference time (i.e., the time at which the speaker opens the door and sees Harry). (Cf. Sweetser 1990 on epistemic futurity.)

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anteriority is computed. In fact, recent treatments of the perfect within cognitive grammar (cf. Langacker 1991) have argued that once we attribute construction-specific meanings to both auxiliary and participle, a compositional treatment is feasible. [3] There is a great deal of evidence which suggests that this compositional treatment is extremely impoverished, especially where it concerns the semantic structure of the present perfect. Indeed, the present perfect has long represented a point of instability in compositional frameworks like Klein's. Such analyses, typically founded on a truth-conditional semantics, seem to suggest that there is no semantic distinction between PrP and past. Mittwoch (1988) in fact argues that there are few cases in which one might be tempted to claim that PrP and simple past differ in truth conditions.[4] Both the past tense and PrP locate an event prior to speech time, without the apparent mediation of reference time.

This semantic parity is noticed by a number of advocates of compositional analyses, including McCawley (1971). McCawley argues that one can regard the perfect as a type of

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[3] In Langacker's treatment the meanings of the subparts are not arbitrary but highly motivated (in the sense of Goldberg 1992b, Lakoff 1987): the construction-specific readings of participle and auxiliary are related via polysemy links to readings of those elements found elsewhere. The meaning of the *have* auxiliary is related via metaphorical extension to possessive *have*, while the meaning of the perfect participle is related to that of the passive participle by means of an image-schema transformation. The validity of this analysis depends upon the plausibility of polysemy analyses of the sort invoked. The metaphorical analysis of perfective *have* stretches credulity to some extent. It is not at all clear that speakers note a semantic affinity between perfective *have* and its possessive progenitor (nonauxiliary *have*), particularly given the differences in subcategorization.

[4] Mittwoch observes a truth-conditional distinction between past and PrP only in the case of examples like:

(a) Mary has touched the finish line.

In (a), she argues, "the base sentence in the present perfect [*Mary touch the finish line*] becomes true at the moment of utterance. A past-tense sentence would be false in this situation" (p. 217). Presumably, the past-tense sentence would be false in this context because truth conditions for the past tense require that the base sentence be true at some time prior to, and distinct from, now.

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embedded past: for example, the PaP represents a past-tense sentence within the scope of a past-tense operator. Hence, sentence (3.1b) would be represented as follows:

(3.3) PAST (PAST (Larry leave))

As Binnick notes, this treatment requires no distinct perfect operator or construction—the perfect is viewed merely as an embedding or recursion possibility. Of course, McCawley is plagued by the possibility of indefinite iteration of tenses; there is nothing within his system (except, of course, stipulation) which would prevent an infinite number of past-in-past embeddings. Apropos of the PrP, a more serious difficulty is the following. In McCawley's system, the PrP represents a past-tense sentence embedded in the scope of a present-tense operator. This scoping amounts to a statement that a past-tense sentence whose truth is evaluated at the present moment—there is nothing to distinguish the simple past and PrP. Recognizing this difficulty, McCawley suggests that the PrP cannot be viewed as an embedded past, and must instead be given its own semantic deep structure. As we will see, the semantic analysis devised is highly specific; it attributes distinct underlying logical structures to what are more commonly viewed as contextually computed uses of the PrP.

3.2. The Contrast between Past and PrP: Semantics or Pragmatics?

3.2.1. Contrast and Logical Representation

Among advocates of a compositional model of the perfect system, there is an implicit recognition that the failure to distinguish past and PrP at the level of logical form is a severe liability. Such theories appear to have little predictive power if they do not provide a semantic explanation for grammaticality contrasts like that given in (3.4a-b):

(3.4) a. Paul entered college in 1970.

b. *Paul has entered college in 1970.

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Certain attempts to distinguish the past and PrP at the level of logical structure have relied on a vague and somewhat mystical analysis of the PrP that was first proposed by McCoard (1978). McCoard argues that the PrP evokes an 'extended now': the PrP locates an event within an interval which includes the present as well as some portion of the past. Presumably, the concept of 'extended now' is not the same as that characterization of the present which might be used to explain the ability of the present tense to encode habituality. As we saw in section 1.2.2.2, the habitual present, found in sentences like *Now they do curbside recycling in Oakland*, evokes an 'extended now', insofar as the habitual sentence constitutes a panchronic generalization: recycling events are held to be locatable within an interval of indefinite size incorporating past times, future times and the 'now' of speech time. No such event is necessarily located at the moment of speech; it is sufficient that the event proposition in question be satisfied at some times within the present 'era'. It is worth noting in passing that, *pace* Fenn (1987), 'true' stative sentences provide no evidence for the supposition that the present is by nature an extensible entity. Sentences like *Now Germany is unified* are perfectly compatible with a momentaneous view of the present (i.e., speech time). While the denoted state of affairs obtains throughout the recent era (and is expected to continue into the future), the property of distributivity ensures that the state is also satisfied at all moments within its tenure, including the moment of speech. Returning to the present and habituality, we can see that the 'extended now' associated with the PrP is a distinct construct from the 'now' invoked by present habitual sentences. The 'extended now' evoked by the PrP is a present-contiguous past interval (a phase extending from some past point up to the moment of speech) rather than a present-inclusive interval including past and future times.

A number of tense logicians have attempted to translate this view into interval-based truth conditions upon the perfect in general. These analysts generally advocate a model-theoretic account of tense and aspect, based on Montague semantics; they include Dowty

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(1979), Heny (1982), Richards (1982) and Mittwoch (1988). Consider, for example, the truth conditions proposed by Heny for the perfect operator *have*:

(3.5) *Have* (A) is true in M relative to (*w*, *i*) iff there is some interval *j* such that *i* is the final subinterval of *j* and for some nonfinal subinterval [5] *k* of *j* A is true in M relative to (*w*, *k*). (1982:142)

These truth conditions contrast with those given for the past operator:

(3.6) *Past* (A) is true relative to *i* iff there is an interval *j* earlier than *i* such that A is true relative to *j*. (Richards 1982: 63)

As shown in (3.5), the perfect requires that the time *i* for which the truth of the tenseless proposition *Have* (A) is evaluated is the final moment of an interval which includes the time at which the event denoted by *A* occurred. In the case of the past, by contrast, the event proposition *Past* (A) is not evaluated relative to an interval that also contains event time.

This analysis raises a number of questions, not the least of which is the following: what does it mean, in intuitive terms, for an event proposition to be evaluated relative to an interval which includes reference time? The import of this concept seems reasonably clear when we consider PrP examples like (3.7):

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[5] Heny argues that the 'nonfinal condition' is necessary to "introduce a minimal element of pastness" into the semantics of the perfect. He notes that this condition is needed to distinguish such sentences as *Madge has loved Roberto* from their present-tense counterparts: *Madge loves Roberto*. As Mittwoch (1988) notes, however, the true distinction between the present tense and present perfect here is aspectual: while the former sentence denotes an event (conceivably a state phase which culminated immediately prior to the present time), the latter sentence denotes a state.

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(3.7) Harry has been working on the roof since dawn.

Sentence (3.7), an instance of the continuative perfect (McCawley 1971), evokes a present-inclusive interval whose lower bound is dawn. The situation denoted—Harry's working on the roof—obtains throughout this interval. The interpretation of this sentence reflects the truth conditions given in (3.5): a tenseless proposition—*Harry be working on the roof*—is true at some nonfinal subinterval of *j* (*a fortiori*, as this proposition is true at *all* subintervals of *j*). It is difficult, however, to understand how the notion of evaluation with respect to an interval is relevant to resultative-perfect assertions like (3.1a), repeated below:

(3.1) a. Harry has accepted the job.

In (3.1a), a past event is somehow related to the present moment; but one has the impression that this relationship is no more 'interval-like' than that which is denoted by the analogous past-tense assertion: *Harry accepted the job.* The interpretation of (3.1a) evokes the interpretive model associated with preterite-form sentences. The semantic underpinnings of this model are described in (3.6) and the discourse-pragmatic features of this model are described in section 1.2.2.4. Sentence (3.1a) differs from its past-tense version in that the time at which Harry accepted the job is not the reference time. In processing (3.1a), the interpreter does not search the conversational context for a discourse-active time frame within which to locate Harry's acceptance of the job. However, the event denoted by (3.1a), like that denoted by the past-tense version, is assigned a unique, circumscribed time of occurrence, distinct from the interval for which the sentence as a whole is evaluated (i.e., the present, in the case of the PrP). One might say that the relationship between speech time and event time in sentences like (3.1a) is 'digitized' rather than continuous: (3.1a) is used to assert that an event occurred within a time that is distinct from speech time. Moreover, this time of occurence is, as in the case of the past tense, a

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'small' interval. The resultative interpretation of sentence (3.1a) is obviated by the presence of adverbials which, like *before*, evoke a general present-contiguous time span:

(3.1) a.' Harry has accepted the job before.

Sentence (3.1a') cannot be used to indicate that Harry is now employed as a result of having accepted the job. The presence of time-span adverbs like *before* is apparently incompatible with the evocation of a unique time of occurrence. [6] It seems therefore that if there is a purely semantic distinction between past and PrP, the 'extended now' analysis, at least in its model-theoretic incarnation, fails to capture it.

Furthermore, by positing an operator PERF or *have*, proponents of the truth-conditional model sketched above avoid describing the syntax-to-semantics mapping which produces the interpretation in question. In fact, as Binnick points out (1991), this type of analysis entails a noncompositional treatment of the perfect, and the PrP in particular:

> [the 'extended now' condition] does not follow from the perfect as tense, which makes no reference to the (past) event time (but merely to the coincidence of reference time and speech-act time), and it does not follow from the perfect as aspect, which makes no essential reference to the present (but merely to the event preceding the reference time). (p. 268)

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[6] Not all time-span adverbs are incompatible with resultative meaning. Note (a):

(a) It seems that Harry has accepted the job since we last spoke.

The speaker of (a) has in mind a particular time of occurrence, but places only general boundaries upon that interval. We will see that the PrP, under the resultative interpretation, rejects definite past-time adverbs.

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The fact that Heny *et al.* do not provide a compositional account of the perfect makes one wonder why they use a Montague-based intensional semantics to interpret the perfect, since Montague grammar is intended to capture syntax-semantics isomorphism. Even sacrificing a compositional account, proponents of 'extended now' theory fail to give a plausible semantic account of the distinction between past and PrP. Both Heny and Richards admit that the grammatical restriction exemplified in (3.4) "cannot be componentially explained from a semantic point of view" (Richards, p. 101).

Analysts in the truth-functional camp have tended to relegate the temporal-adverb co-occurrence restrictions to an ill-defined 'pragmatic component'. We will also explore a discourse-pragmatic analysis of such restrictions. We will keep in mind, of course, that such an account must be fairly well elaborated, if it is to represent more than a desultory attempt to patch leaks in a semantic analysis. In the present study, grammaticality facts like those exemplified in (3.4) will be explained on the basis of an ecologically based restriction arising from a discourse-functional contrast between PrP and past. This contrast will be analyzed as a markedness opposition involving what has been called temporal anaphora (cf. section 1.2.2.4).

In an account in which the contrast between the PrP and past is essentially a discourse-pragmatic one, the semantic parity of PrP and past is not especially troubling. And, in fact, cross-linguistic data concerning the development of tense-aspect systems support the view that speakers see the past and PrP as expressing the same types of meaning. Diachronic studies attest to the frequency of that development in which an exponent of perfect aspect becomes a general indicator of past tense, i.e., one which is ambiguous with respect to preterite and PrP readings (cf. Fleischman 1983). This shift is attested in French, wherein the *passé composé* functions as both past and resultative PrP (Waugh 1983), and is occurring as well in certain dialects of Peninsular Spanish (Schwenter forthcoming). The same shift occurred in the history of Latin: the IE reduplicated perfect and sigmatic aorist forms coalesced into a morphologically heterogeneous set of perfective desinences (Bader

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1968). The resultant perfective form is ambiguous with respect to preterite and resultative (perfect) readings: subject to contextual modulation, the form *rogavi:* means either 'I have asked' or 'I asked'. As Comrie points out (1976), this distinction is reflected in the pattern of sequence-of-tense restrictions. Under the perfect reading, the perfective predicate belongs to the primary sequence of tenses; past vis-à-vis the time of the report (reference time) is coded by a perfect subjunctive: *Rogavi quid dixerit* 'I have asked what she said'. Under the preterite reading, the formally identical speech-act predicate belongs to the secondary sequence of tenses; pastness with respect to reference time is coded by a past-perfect subjunctive: *Rogavi quid dixisset* 'I asked what she said (lit: had said)'. Such data suggest that languages like Latin did not 'lose' the perfect-preterite distinction. In such languages, the perfect and preterite represent covert categories of past-time reference.

Coalescence of past and PrP is evidenced to some extent in American English as well. The status of the past-PrP contrast is in flux. At present, PrP and preterite appear to represent partially overlapping grammatical categories. What are the contexts in which neutralization occurs? The relevant contexts can be identified with the various communicative functions grammarians have associated with the PrP: existential, resultative, etc. On this view, the resultative reading is a context of neutralization. In contrast with French and Latin, such neutralization favors the past form. For some speakers, a preterite-form event-report (e.g., *Harry left*) is preferable to the resultative perfect: *Harry's left.*. Many of these speakers observe that the latter report 'sounds British'. If we can speak in terms of broad diachronic trends, the past in American English appears to be expanding its semantic range at the expense of the PrP.

This trend is noticed by Gathercole (1986), in a comparative study of perfect use in Scottish and American English. [7] She observes that Scottish adults use the PrP far more

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[7] Slobin and Bocaz (1989) describe analogous acquisition facts in a contrastive study of tense and aspect use in Peninsular and Latin American Spanish. They point out that the Spanish PrP is found far more frequently in the speech of Spanish children than in that of Chilean and Argentinian children.

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frequently than their American counterparts in conversations with children, and that Scottish children begin to use the PrP earlier than American children, who acquire it at about 4.6 years. [8] The American subjects favored the preterite form in resultative contexts. One general indicator of this preference is the frequent co-occurrence of the aspectual adverb *already* and the preterite in such sentences as *I already ate*. This sentence, of a type frowned upon by purists, denotes the presence of a resultant state (that of satiation) prior to any attempt to effect that same state (cf. Michaelis 1992). The preterite is used to encode the resultant state currently in force. In Gathercole's study, the Scottish subjects used the PrP in such contexts. The American English speakers preferred what for them is apparently a neutral form: the past, which represents the neuralized contrast between PrP and preterite. This fact provides support for the claim that the past tense represents the unmarked form with respect to the English past-PrP opposition.

3.2.2. Contrast and Pragmatic Differentiation

The fact that PrP and preterite are difficult to distinguish semantically lends support to a discourse-pragmatic analysis of the relevant contrast, since linguistic constructs which enter into discourse-functional contrasts tend to be semantically commensurate. Thus, for example, the topicalization (left-dislocation) construction and subject-predicate construction represent distinct information-structure framings of invariant propositional content. (Cf. Lambrecht (forthcoming) for an account of the manner in which the autonomous

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[8] It might appear somewhat difficult to reconcile the following two facts: (a) the resultative reading is the communicative context most conducive to neturalization and (b) the resultative reading is the first PrP sense acquired by children, and hence appears to have a certain 'primal' status (Slobin 1990). These facts actually appear quite compatible in the present account. Since, as noted, the resultative perfect represents a highly idiosyncratic construction, we would expect speakers to use a less constrained near-synonym where possible. Furthermore, as I will argue, the resultative reading and the past tense exhibit a closer semantic bond that do the past and 'time-span' readings of the PrP (existential and continuative). For this reason, conflation of PrP and past in resultative contexts is readily explicable in semantic terms. This is the same type of conflation that has occurred in languages attaching only a resultative reading to the PrP form.

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component of information structure mediates between semantic content and syntactic form.) In fact, we have every reason to expect that that distinct morphosyntactic configurations displaying a high a degree of semantic similarity will be functionally opposed.

According to Clark's Principle of Contrast (1987, in press), languages do not offer an excess of synonymous form, since speakers tend to differentiate synonyms by establishing a semantic or pragmatic contrast. The principle in question underlies both language change and language acquisition: [9]

> The Principle of Contrast, in its most succinct form, goes as follows: 'Every two forms contrast in meaning'....This principle captures the insight that when speakers choose an expression, they do so because they mean something that they wouldn't mean by choosing an alternative expression. Speaker choices in any domain mean what they do in part because they contrast with other options both in that domain and in the language as a whole. As a result speakers do not tolerate synonyms in language. This principle applies to words, affixes, grammatical functors *and even constructions* [emphasis mine]. (in press)

The resolution of synonymy will often involve the interaction of semantic and pragmatic factors: if two distinct constructions are closely alligned semantically, these constructions will tend to enter into a discourse-pragmatic contrast. That is, in Slobin's terms, speakers innovate pragmatic extensions of grammatical forms. These extensions are discovered by children "through a prolonged developmental process of conversational inferencing" (1990:10). The Principle of Contrast is operative in children's acquisition of

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[9] As Slobin argues (1990), acknowledgement of the parallel between language learning and language change does not entail that we attribute any causal role to children in language change. The drawing of an analogy between ontogenetic and philogenetic development is perfectly compatible with an account in which adult inference and/or creativity is responsible for the introduction of meaning extensions into the language.

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the simple past and PrP. Slobin (op. cit.) observes that adults tend to use the two forms interchangeably in their conversations with young children. Thus, to comment upon a child's artistic accomplishment, a parent might use a preterite-form assertion (*Myron drew a dragon!*) or a PrP-form assertion (*Myron's drawn a dragon!*). Slobin argues that as far as the child is concerned, the two forms are synoymous, since they can be used to denote the same objective situation. However, he claims, the learner's presumption that each form has a distinct communicative function will induce him or her to infer the existence of a discourse-pragmatic contrast between the two types of past-time reference.

According to Slobin, this contrast hinges on the presence of an implicatum attached to the PrP form. This PrP indicates that the past event denoted is currently relevant. Typically, at least in parent-child interactions, current relevance can be identified with an indication that the result of that past event obtains at present. The PrP is deictic: unlike the past, it relates the anterior event to the time at which that event is talked about. In a broad sense, this 'implicatum' is a semantic condition, although it would not be characterizable as such to those who equate meaning with truth conditions. The implicatum in question is a resultant-state implication which incorporates a contextual variable. The variable ranges over times at which the resultant state holds; the time of speaking indexically anchors the variable. This implication represents a semantico-pragmatic condition upon the PrP. Accordinly, we will have no cause here to distinguish between the 'literal' meaning of the PrP construction and the conditions upon its felicitous use.

We will, however, have need to refine the 'current relevance' analysis. The current-relevance rubric appears to subsume three distinct implications regarding the present state of affairs. These implications are most frequently analyzed as uses or contextually conditioned understandings of a vague semantics. [10] This study will suggest, however,

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[10] Following Zwicky and Sadock (1975, 1986), I will use the terms *use* or *understanding* to refer to an intepretation which may or may not attributable to contextual modulation of a vague semantics. Correspondingly, the terms *sense* or *reading* will be reserved for "the idiosyncratic semantic content associated with individual lexical items—and derivatively, with the semantic content associated with

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that these understandings are in fact conventionally assigned interpretations. The three readings of the perfect are exemplified and paraphrased in (3.8). The labels given are those used by McCawley (1971, 1981), although I have replaced his term *stative* with the more common term *resultative*:

(3.8) a. The police have arrested the men responsible. (Resultative)
The result of a past event obtains now (i.e., the men are currently in custody).

b. Harry has visited twice this week. (Existential)
One or more events of a given type are arrayed within a present-inclusive time span.

c. That store's been there for years. (Continuative)
A state that began in the past obtains throughout a present-inclusive time span.

The distinct interpretations listed in (3.8) have unique grammatical and inferential features. The grammatical facts in question, e.g., adverbial co-occurrence restrictions, will be taken as evidence for an ambiguity analysis of the PrP. Following Zwicky and Sadock (1975), we will presume that if distinct grammatical features (of a reasonably arbitrary nature) attach to distinct understandings of a given form, that form can be said to instantiate

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syntactic constructions" (Zwicky and Sadock 1986: 254). However, the Construction Grammar framework explicitly rejects Zwicky and Sadock's contention that semantic content of the latter sort arises only "by virtue of the compositional semantic principles operating on the content of the parts of...constructions" (loc. cit.). As noted in chapter two, Construction Grammar recognizes the existence of idiosyncratic grammatical constructions with which meaning must be associated wholistically (via convention)—in the manner of lexical meaning. This study further departs from Zwicky and Sadock in assuming that ambiguities may involve lexical or constructional polysemy.

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two or more distinct semantic structures. Consider, for example, the contrast given in (3.9a-b):

(3.9) a. I've made toast.

b. I've made toast at noon.

Sentence (3.10a) can be interpreted either as a resultative perfect or an existential perfect. On the resultative reading, the sentence counts as an assertion of the following kind: there is some toast available at speech time, as a result of an action taken by the speaker. On the existential reading, the sentence implies nothing about the conditions which obtain at present (there may or may not be toast available at present); it is simply used to assert that there was a toast-making event somewhere within the speaker's history. Note that this ambiguity disappears in sentence (3.9b), which includes a punctual past-time adverbial. If *at noon* is given a definite (i.e., unique) interpretation, the sentence is an anomalous instance of the resultative perfect. As shown in (3.4b), resultative-perfect sentences do not accept adverbs coding event time. If, however, *at noon* is understood to refer to an array of times describable as 'noons' the sentence is acceptable—on an existential interpretation. Under this interpretation, the sentence denotes one of more instances of noontime toast-making. That is, the time-specification constraint exemplified in (3.4b) does not characterize the perfect *per se*; this, and other constraints to be detailed below, attach to the resultative perfect.

On the basis of such evidence, I will argue that the distinct readings exemplified in (3.8) are manifested as distinct grammatical constructions. This argument follows from the assumption, expressed by Leech (1970:269), that "ambiguities will [often] manifest themselves in separate deep grammar representations for the same formal item". The constructions in question will be related by inheritance links (cf. section 2.1).

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Correspondingly, the PrP will be seen as a case of constructional polysemy (cf. Goldberg 1992a, 1992b, Michaelis forthcoming a).

It is important to note the manner in which constructional polysemy differs from structural ambiguity. In the case of the latter, two distinct semantic structures will correspond to two distinct syntactic structures, e.g., the two parsings of the coordinate structure *old men and women*. In the case of constructional polysemy, the ambiguous interpretation cannot be represented by means of distinct underlying syntactic structures: one syntactic configuration has two or more readings. Zwicky and Sadock (1975) describe this type of ambiguity under the (somewhat misleading) rubric of "nonconstructional ambiguity". They note (p. 12) that a number of linguists "are reluctant to admit any syntactic ambiguities that do not correspond to distinct surface patterns". They cite in particular the argument of Weydt (1973) that considerations of economy prevent our viewing action sentences as generally ambiguous between agentive and nonagentive readings. Zwicky and Sadock argue, however, that we need not reject, *a priori*, the claim that a complex structure may exhibit 'nonconstructional' (i.e., nonsyntactic) ambiguity.

It is important to keep in mind in such cases that the ambiguity of the configuration in question cannot be traced back to any of the lexemes of the sentence. The existence of nonstructural syntactic ambiguity is in itself incompatible with a compositional semantic analysis, insofar as adherence to the compositional ideal entails that no more than one interpretation can be computed for a given complex structure (on the assumption that lexical ambiguity is factored out prior to this computation). As Carter (1988:185) observes, recognition of constructional polysemy entails recognition of meaning that is "somehow extruded by the syntactic context, and is not simply attributed to some lexeme of the sentence". That is, the existence of constructional polysemy entails the existence of constructional meaning. [11]

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[11] The reverse is not necessarily the case. That is, it possible to argue for the existence of constructional meaning *simpliciter* without recognizing the existence of constructional polysemy. For

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Given that there is no unitary PrP construction, we will have to revise somewhat our preliminary statement concerning the nature of the opposition between PrP and past. We will find that it is the resultative perfect (3.8a), that reading least amenable to the interval-based 'extended now' analysis, which shows the greatest semantic affinity with the past. As I pointed out in footnote 8, contexts of neutralization betray the existence of this close semantic bond: in such contexts, the preterite form most frequently bears the communicative function associated with the resultative PrP. Furthermore, certain aspectual restrictions upon the grammatical encoding of presupposed information will serve to demonstrate that it is the resultative PrP which exhibits a discourse-functional contrast with the past, where no such contrast is observable in the case of the existential PrP. Such evidence will be used to show that these two interpetations, frequently confounded in logical accounts, must be viewed as distinct readings of the PrP.

3.3. The PrP versus the Past Perfect; the Time-Specification Constraint

Does the ambiguous interpretation which characterizes the PrP configuration hold throughout the perfect system? Certainly, the three PrP sentences exemplified in (3.8) have the requisite interpretations when 'backshifted'. Thus, for example, the sentence *The police had arrested the men responsible* denotes a resultant state present at the (past) reference time. We must ask, however, whether the grammatical evidence which will support our ambiguity analysis of the PrP is also available in the case of the PaP. By and large, it is not. Note, for example, sentence (3.10), which, as the context provided makes clear, is the backshifted version of (3.9b):

(3.10) [The detective came in the afternoon.] I had made toast at noon [and he noticed the crumbs on the table].

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example, as Carter argues, one element of meaning contributed by the 'goal advancement' valence is 'affectedness'. A sentence like *Harry loaded the van with tubes* (as against *Harry loaded tubes into the van*), there bears a strong implication that the van was fairly full when the event culminated. The 'affectedness' implication attaches to the valence structure rather than to any element within that structure.

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Note that (3.10) differs from its PrP analogue, (3.9b), in the following respect: the latter has a resultative interpretation, where no such interpretation is possible for the former, owing to the presence of the temporal adverbial *at noon*. That is, the constraint barring adverbs specifying a definite event-time attaches exclusively to the PrP under the resultative reading; it is not associated with the 'resultative' PaP.

Note, furthermore, the PrP-PaP contrast given in (3.11):

(3.11) a. Our committee chair has (??angrily) tendered his resignation.

b. Our committee chair has angrily tendered his resignation every time we have asked him to take a controversial stand on something.

c. [Pushed to take a stance], our committee chair had angrily tendered his resignation, [and we were hard pressed to find a replacement].

The unacceptability of the manner adverb *angrily* in (3.11a), a resultative PrP, can be said to arise from a constraint barring manner modification of the VP denoting the R-situation. This constraint is specific to the resultative PrP, as demonstrated by sentence (3.11b). The latter sentence is an existential PrP: it evokes a general time span within which some number of angered-resignation events occurred. In particular, the constraint barring manner modification atttaches to the PrP on the resultative reading. Sentence (3.11c) shows that the PaP version of (3.11b) is not constrained by the manner-modification restriction.

These facts are difficult to reconcile with Klein's compositional account of the perfect system: if the only difference between PrP and PaP is the location of the temporal reference point (i.e., whether that point is past or present), then we would not expect that a grammatically ramified ambiguity which characterizes the PrP does not also characterize the PaP.

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To be sure, there have been a number of attempts to provide a compositionally based explanation of the time-specification constraint exemplified in (3.4b). It is worthwhile to examine the limitations of such accounts. One popular account, most recently advanced by Binnick (1991), follows Reichenbach's original definition of reference time (R) as the time to which temporal adverbs refer. Under this account, labeled the 'scope solution' by Klein, the anomaly of (3.4b) is explained as follows. The reference time of the PrP is speech time. Since R is the time of adverbial reference, the past time reference supplied by the temporal adverbial *in 1970* is excluded—this adverbial does not describe R.

Klein (1992), however, undermines the foundation of this argument. He demonstrates that R cannot be regarded as the sole time of adverbial reference for the perfect. Consider the following examples: [12]

(3.12) a. [Yesterday, the mail arrived at two.] I had (already) LEFT at two.

b. [Yesterday, the mail arrived at three.] I had left at TWO.

Klein observes that PaP-form sentences containing punctual time adverbs are potentially ambiguous as to whether an adverbial expression modifies event time (E) or R. In (3.12a), *at two* modifies R. In (3.12b), *at two* modifies E, while R is three o'clock. In other words, R is not the sole time of adverbial reference, as demonstrated by (3.12). Therefore, the fundamental premise of the 'scope solution' is untenable, and we must answer the following question: since the PaP permits a temporal adverb to modify E, why should the formally parallel PrP forbid temporal modification of E?

Klein seeks to account for the anomaly of sentences like (3.4b) by citing a pragmatic restriction, the P[osition]-Definiteness Constraint: event and reference times cannot

[12] In (3.12), small caps indicate a point of prosodic prominence, corresponding to the left boundary of the VP focus-domain (cf. Lambrecht forthcoming). In (3.12a), the material to the right of that element receiving the tonic accent represents a topical constituent, as indicated by its lack of accentuation. That is, the time period denoted by *at two* is already under discussion at the time of the perfect-form utterance.

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simultaneously be fixed to specific intervals in a given assertion. Thus, for example, such past-perfect sentences as (3.13) are ruled out:

(3.13) *At four, Bill had sold someone the Buick at three.

In the case of the PrP, R is always fixed via identification with speech time; therefore, adverbial description of E is necessarily barred. A problem arises, however, with respect to PaP-form examples like the following:

(3.14) It was 1972. Harry had joined the Navy in 1960, and he was ready for retirement.

In (3.14), both E and R are adverbially specified: R is 1972 and E is 1960—yet no anomaly results. Therefore, example (3.14) undermines the validity of the P-Definiteness Constraint. Further, the anomaly of (3.13) merits a simpler explanation than Klein offers: assertions like (3.13) are singularly uninformative, and, as a consequence, potentially misleading. If they are to be construed as informative assertions, such sentences imply a contrast that cannot obtain. Adverbial specification of R (*at four*) implies that there is a time after three at which Bill had not sold the Buick. In fact, all times subsequent to the time at which Bill sold the Buick must be times at which Bill sold the Buick. Therefore, there is no reason to pick out any particular time after the time at which Bill sold the Buick. In sum, it seems that that sentences like (3.13) are peculiar not because they violate a restriction specific to perfect-form sentences, but because they represent quantity violations.

Therefore, like Heny and Richards, we must conclude that the restriction exemplified in (3.4b) does not follow from the semantics of the PrP. The restriction on adverbial time-specification appears to be an idiosyncratic feature of the PrP. As noted above, certain idiosyncrasies of this type do not characterize the PrP *per se*. Certain constraints attach to

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one reading, the resultative reading exemplified in (3.8a). Even if the P-Definiteness constraint were tenable, it would not account for the constraints related to manner modification (3.11), nor would it provide an account of the highly parochial nature of the manner and time-adverbial constraints which we examined with respect to the PrP. [13]

3.4. A Constructional Analysis of the Perfect System

3.4.1. Systematicity

In light of our preliminary investigation of the PrP, let us now re-examine the question raised in the section 3.1: can the perfect system be given a compositional analysis similar to that proposed by Klein (1992)? In such an account, all semantic and grammatical characteristics of the three perfect types would be attributable to the manner in which that meaning component characterized as aspectual (anteriority vis-à-vis R) is related to speech time. That is, differences among PrP, Pap and FuP must be said to arise from the distinct tense specifications. The analysis given above suggests that a compositional account of the English perfect system is not feasible. On the basis of sentences like (3.10), we noticed that certain constraints, in particular that barring 'definite' adverbial specification of event time, attach to the PrP but not to the PaP. We examined two semantic explanations for this divergence, both of which depend upon the assumption that the meanings of the various

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[13] Klein does notice the distinction between definite and 'cyclic' (replicable) punctual adverbs. He argues that examples of the following kind are compatible with the P-Definiteness constraint:

(a) Harry has visited at Christmas.

He observes that in examples like (a), the adverbial *at Christmas* does not denote a unique occasion, but ranges over multiple Christmases. Therefore, he argues, the adverb is not 'position definite' and no violation of the relevant constraint occurs. He fails to notice, however, that 'cyclic' adverbs are not necessarily compatible with the PrP. Cyclic adverbial specification coheres with the semantics of the existential perfect, but not with that of the resultative perfect. The latter perfect type, I will argue, is characterized by the following condition: the event denoted is unique. Accordingly, the resultative perfect is not compatible with cyclic time specification, which depends upon the potential for event iteration. Klein's account overlooks the fact that the PrP cannot be given a unitary semantic characterization.

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perfect types are compositional. The 'scope solution' and the P-Definiteness constraint are similar modes of explanation: each attributes the PrP-based time-specification restriction to the coalescence of speech time and reference time. These accounts were shown to be untenable. Furthermore, we noted that even if such accounts were feasible, they would not explain co-occurrence constraints involving nontemporal adverbial expressions, e.g., manner adverbs. Finally, we saw that two distinct understandings of the PrP, resultative and existential, are characterized by distinct adverbial co-occurrence restrictions. These restrictions will be assimilated to a larger array of parochial grammatical features to be described in chapter five. The sensitivity of the grammar to alternate readings of the PrP is in principle incompatible with a compositional account like Klein's, since it implies the existence of meaning 'components' above and beyond those contributed by present tense and 'perfect aspect'.

The semantic and grammatical features exhibited by members of the perfect system cannot be explained on the basis of a cross-cutting system of tense and aspect specifications. The meaning of a given perfect type is not reducible to the interaction of tense and aspect. Instead, in accordance with Waugh (1983), among others, I will argue that the three perfect types represent distinct grammatical constructions. I will further argue that a construction within the perfect system is not necessarily formally defined by temporal inflection: parochial features of grammar, semantics and use are sufficient to define a perfect construction. We have seen preliminary evidence which suggests that the PrP configuration represents a complex of aspectual constructions so defined.

Does this type of account then remove the basis for referring to the array of perfect types as a *system*? After all, the organization of the perfect system, as it is typically conceived, arises from a model in which the perfect types are viewed as combinatory variants of one another. We observed, however, in section 2.1, that the repertoire of grammatical constructions can be viewed as a structured inventory rather than, say, a list. That is, speakers seek to relate semantically and formally similar constructions in order to

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increase *motivation* within the grammar. In Goldberg's terms, "a given construction is motivated to the degree that its structure is inherited from other constructions in the language" (1992b:67). In this sense, motivation is akin to redundancy, in that constructions share all nonconflicting semantic and syntactic information. Given the associative nature of memory, we have reason to believe that association of elements displaying a formal and semantic affinity will optimize learning, storage and retrieval of distinct form-meaning correpondences. In this study, a network of inheritance links relating the various perfect constructions will be said to constitute the perfect system.

Such an account enables us to strike a balance between two equally untenable positions: (a) the meanings of the various perfect constructions are arbitary, and (b) the meanings of the various perfect constructions are predictable from the meanings of subparts. The former position is not feasible: an arbitrary array of facts is not readily learnable, and we should account for the fact that, according to Gathercole's (1986) findings, American children use the perfect in narrative and conversation from the age of 4.6 years. Admittedly, the fact that the preterite is taking over functions of the PrP and PaP in American English does suggest that the constructions which make up the perfect system are not easily learnable. Nevertheless, the latter position simply cannot be maintained in light of the arguments presented in this and preceding sections. The present account will highlight those features of perfect meaning which are properly regarded as idiosyncratic, while not overlooking the manifest redundancy (i.e., systematicity) which faciliates learning of the relevant correspondences of form and meaning.

3.4.2. **Abductive Inference**

Extrapolation of patterns, i.e., relationships of inheritance, is not the only method by which learners make generalizations about constructional meanings. Motivation may also be equated with simple abductive reasoning employed by the learner in an attempt to make semantic or discourse-pragmatic sense of constraints upon a given form-meaning correspondence. That is, the speaker may construct one or more semantic principles to

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explain why a given construction behaves as it does. According to Lehrer (1990), abductive reasoning of this sort may facilitate interpretation of modification structures like *sad book*.. In these cases, the head noun denotes a text; the adjective denotes an emotion. Lehrer observes that phrases like *angry book* and *enthusiastic book* denote works that express the author's emotional state, while phrases like *happy book* and *nostalgic book* denote works capable of evoking the emotional state indicated. Lehrer argues (p. 217) that "general cognitive principles may permit rational speakers to figure out [the correct] interpretation, since a sad...person is likely to elicit sadness...in others, whereas an angry...person is not likely to elicit anger...in others". As Lehrer observes, however, there are gaps in the paradigm: one cannot, for example, use the expression *content book* to denote a work causing feelings of contentedness in the reader. The reasoning described is useful only as an interpretive strategy, since the 'rule' which produces the expressions in question is not fully productive.

A similar kind of 'after the fact' inference might be used by speakers attempting to master the repertoire of perfect constructions. While the aforementioned case involved a constraint upon interpretation, certain constraints to be explored in this study pertain to the grammatical realization of the R-situation. As shown in (3.11a), the resultative PrP disallows manner modification of the VP complement. I will suggest that speakers, faced with data like that given in (3.11), construct a principle of the following kind: the resultative PrP construction does not welcome grammatical constructs, like manner modifiers or temporal adverbs, which imbue the R-situation with an undue degree of salience vis-à-vis its currently accessible consequences. This principle, may be related to Langacker's (1987) profile-base distinction: the resultative PrP 'profiles' a present state, disallowing expressions which further describe the 'base' situation (the past event leading to the present state). This principle does not predict the existence of constraints like that exemplified in (3.11); it may simply serve as a mnemonic aid for learners attempting to master constraints linked to the construction.

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A further form of motivation identifiable with abductive inference of this sort is that which speakers evoke in accounting for use conditions upon a given construction. These conditions were labeled *ecologically based constraints*. One such constraint is that preventing the resultative PrP from expressing a pragmatically presupposed event proposition in cleft sentences like *MOE's the one who (*has) selected the wine.* This constraint was said to be motivated in terms of the discourse-pragmatic division of labor between preterite and resultative PrP, in which the former, but not the latter, can serve as an exponent of temporal anaphora.

3.5. Diachrony, Synchronic Motivation and the Principle of Ecology

Simply put, is our constructional account of the perfect system plausible? One aspect of the analysis seems to lack credibility: morphosyntactic configurations displaying obvious formal and semantic commonalities should not count as distinct constructions. If we grant that the evidence presented above—pertaining to the idiosyncratic nature of certain adverbial co-occurrence restrictions—supports the treatment proposed, then this observation can be rephrased as a question about diachrony: why should the PaP and PrP have diverged to the extent that they have? The answer to this question will return us to the issue of 'ecology' within the English tense-aspect system. The PrP, as noted in section 3.2, occupies a unique position in the perfect system: it does not exhibit a truth-functional contrast with the simple past. Accordingly, the following (very speculative) historical account, framed in terms of our ecology metaphor, can be offered.

By a particular point within the history of Old English (ca. 850 CE), the PrP as we know it had evolved from a particular possessive syntagm (cf. Parsons 1990, Carey 1990, Visser 1973). Visser points out (p. 2189):

> Originally *have* in colligation with the past participle was a notional verb denoting posessesion, while the past participle was a complement of attribute to the object and had a good deal of adjectival force, *teste* its being (in the beginning) inflected in

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agreeement with the gender and number of the object: *I have my work done = I possess or have my work in a done or finished condition.* From this state as a result antecedent action was inferred, so that the colligation came to denote completed action.

The PrP at that time represented a resultative construction akin to the modern resultative perfect. Because of the deictic nature of the anteriority relation denoted, PrP and simple-past assertions could be used to describe the same objective situation. Both forms expressed the culmination of an event prior to speech time. Therefore, the PrP faced direct competition within its functional niche from the preterite. Visser notes (1966: 223):

> In Old and Middle English the use of the preterite or the *have* + past participle pattern was not subject to the same rules as in Present Day English: [the perfect] being employed where nowadays the preterite is in order, and the preterite where today, the [perfect] is required...it has been pointed out how freely these forms were interchanged in poetry for the sake of rime or metre.

He points out that in prose as well, the two forms commonly appear interchangeable. As an example of such an alternation, he cites several Middle English passages, including one from Mallory's *Morte d'Arthur* (1470-85): *Sir Bleoberis ouerthrewe him, and sore hath woundyd him.* In this passage, the PrP is used anaphorically: the first sentence establishes a past reference-time; the perfect-form sentence evokes that same reference time, denoting an event which is temporally included in and constituitive of the previously mentioned event. As we will notice in chapter five, anaphoric use of the PrP in such narrative contexts is proscribed in Modern English. Further evidence for the lack of an anaphoricity restriction upon the PrP is provided by facts related to adverbial coreference. Visser points out (1966:750) that "The presence in the utterance of adjuncts indicating past time...did not prevent the perfect from being used". He cites, for example, the following

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early Middle English example: *Many Greke that day fatally hath lorn His lif* ("Many a Greek that day has fatally lost his life").

Thus, in Middle English, we appear to have little evidence, whether pertaining to grammatical constraints or use conditions, which would suggest a clear semantic or discourse-pragmatic distinction between PrP and preterite. We have seen, however, that such distinctions exist in Modern English; the PrP is, for example, highly constrained with respect to temporal-adverb co-occurrence. How did these and other constraints come about? One can hypothesize that in accordance with the tendency to avoid synonymy, speakers endeavored to accentuate differences among the two exponents of past-time reference. Developments along these lines included semantic extension—continuative and existential senses develop, by some accounts, in early Middle English. For example, K. Carey notes (p.c) that the PrP, in a continuative capacity, appears with stative predicates in the Old English manuscript *Layamons Brut* (c. 1250) and that at least one such example is also found in *Beowulf*. The pattern of semantic extension associated with the English PrP is replicated to some degree in other languages. However, as Comrie points out (1976), the meaning expressed by the continuative PrP in Modern English is more typically expresed by the present tense (e.g., in languages like French and German). Further, as Anderson (1982) observes, a present-perfect form need not have an existential reading; the Mandarin perfect lacks an existential meaning, that meaning being encoded by a distinct marker, *guo*. According to Comrie (op. cit.), there exists a cross-linguistic tendency for languages containing perfect constructions to assign that form only a resultative interpretation, the implication of a present resultant state being the clearest manifestation of 'current relevance'. Other developments in the direction of contrast accentuation include the addition of semantico-pragmatic constraints, including those related to anaphoric temporal reference in narrative.

The diachronic path taken by the PrP was by no means preordained. 'Overpopulation' within a functional niche may as easily result in loss of one of the competitor forms as

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semantico-pragmatic differentation of those forms (cf. Fleischman 1989). This type of development is exemplified in French by the expansion of the *passé composé*, a construction originally exclusively dedicated to a resultative function, at the expense of the *passé simple*, the latter of which is now largely confined to formal literary contexts (cf. Fleischman 1983).

The diachronic account offered above employs a broad structural perspective: we have examined the etiology of the PrP construction by considering the communicative function of a closely related 'competitor' (the simple past). This guiding philosophy of this type of inquiry will be labeled the Principle of Ecology. This principle, based upon Clark's Principle of Contrast, is given in (3.15):

(3.15) *Principle of Ecology*: The development of contrast between two or more nearly synonymous elements entails that these forms acquire distinct constraints upon use, interpretation and grammar.

This principle refers to the means by which contrast is effected. In the case of nearly synonymous constructions, differentiation entails increased idiomaticity. That is, during the process in which a contrast is effected, certain features will accrue to the differentiae by convention alone. The developmental path yielding the Modern English PrP can be taken as an example of such a process. In the case of the PrP and its competitor, semantico-pragmatic differentiation has produced a highly marked construction. This marked character manifests itself in constraints upon grammar (e.g., adverbial co-occurence restrictions), specialization of semantic structure (e.g., proliferation of senses) [14] and a severely limited distribution.

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[14] The development of the continuative use of the PrP may in itself represent a response to ecological pressure exerted by the present tense, as the meaning of the latter narrowed. As noted in section 1.2.2.2, the present tense, in its modern manifestation, indicates full instantiation of a state of affairs at speech time, and is thus incompatible with event reporting. As argued in section 2.4.2.1, e.g., bounded states represent

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The distributional restrictions arise from a discourse-pragmatic constraint upon the resultative PrP. This constraint represents an interaction of information structure and aspectual meaning. In particular, I will suggest, the activation status of a proposition (whether it is construed as given or new information) determines whether the resultative PrP construction is an appropriate aspectual framing of that proposition. This discourse-pragmatic constraint can be regarded as an ecologically based constraint (cf. section 2.4): a use condition defined with respect to the synchronic system of discourse-functional oppositions. This use condition arises from the privative opposition between PrP and past. This opposition involves the distinction between temporal deixis and temporal anaphora.

It is important to notice at this juncture that two rather different appeals to the notion of ecology have been made. First, we noted that systemic ecology results in grammatical and discourse-pragmatic differentiation of nearly synonymous forms, *cum* idiomatization of these forms. This is the course of development predicted by the Principle of Ecology. This principle refers to a motivating force in language change; it is not intended to represent a principle to which speakers appeal in seeking a motivation for synchronic constraints (cf. section 3.4.2 on abductive inference). Second, we examined *ecologically based constraints*. In the last chapter, I argued that a constraint upon use or interpretation is motivated when the construction exhibiting that constraint can be seen as belonging to a

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events. This explains the peculiarity of present-tense reports like **Harry is here since noon*. Such sentences are attested in Old and Middle English: Kathy Carey (p.c.) notes that *since*-adverbials coupled with stative verbs generally appear with the simple present rather than PrP in Old English, and that continuative uses of the present tense with *since* are attested as late as 1800. The situation in older varieties of English is akin to that of Modern French:*Il est ici depuis midi*. As we saw, French differs from Modern English in permitting a 'progressive' reading of the simple present. Since the French present tense does not require full instantiation of the denoted state of affairs at speech time, it is available to encode a present-contiguous state phase; the perfect (i.e., *passé composé*) need not, therefore, be pressed into service in this capacity. We can hypothesize that the narrowing of the present in English yielded a prohibition against present-tense event reporting, and a concomitant broadening of the PrP: the PrP acquires a continuative use.

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system of discourse-functional oppositions. In chapter two, we saw that the ecologically based constraints are of two types: calculable and noncalculable.

Constraints of the former type are computed, whether via pragmatic inferencing or general knowledge of grammar. An example of this type of constraint was given in section 2.4.2.2, where we discussed the fact that progressive sentences lack an inceptive interpretation. I argued there that many such interpretive constraints can be identified with quantity-based implicata. The identification is not complete: it is only the *elimination* of an interpretation, rather than the adduction of an interpretation, which stems from knowledge of an unused alternative structure which would be more informative in the context at hand. Thus, for example, Lambrecht (1991) argues that a 'structuralist' account of sentence interpretation does not necessarily require recourse to Gricean principles of interpretation. Examining the 'event reporting' interpretation of the English sentence-focus prosodic pattern (e.g., *HARRY died*), he argues that this interpretation is:

> determined against the background of an unused alternative structure in which the accent is on the predicate. It is a function of the existence of one or more PROSODIC ALLO-SENTENCES provided by the grammar of the language. (p. 20)

Lambrecht goes on to argue that

> This kind of intepretive mechanism requires a 'structuralist' rather than 'generativist' approach, i.e., an approach in which the interpretation of a given structure is viewed as being determined within a system of formal oppositions rather than by a set of rules (loc. cit.)

While Lambrecht regards the interpretation of sentence-focus structure as calculable in the manner suggested, he also views this interpretation as a fact about grammar, i.e., the

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conventional understanding of a particular prosodic template. The construction in question, he argues, is idiomatic: it is characterized by a number of parochial constraints, e.g., the predicate is necessarily intransitive, the subject nonagentive. Therefore, speakers must use knowledge above and beyond the inference described when they interpret a given instance of the sentence-focus prosodic structure. The availability of structurally-based inference *supports* speakers' knowledge of the meaning of the construction, but is not the sole determinant of their interpretation of that prosodic template. That is, as in the present case, features of systemic ecology are motivating principles underlying conditions upon use and interpretation rather than mechanisms generating those conditions. Therefore, certain calculable ecologically based constraints resemble what Morgan (1978) calls *short-circuited conversational implicatures*: calculable components of meaning which are nonetheless characterizable as conventional concomitants of the semantics of some form-meaning pairing.

Noncalculable ecologically based constraints, it was claimed, are use conditions conventionally attached to constructions. Despite the fact that these cannot be computed from pragmatic of grammatical knowlege, they are synchronically motivated, insofar as their existence can be explained (quite apart from their etiology) by reference to systemic ecology, e.g., the privative opposition between PrP and past. That is, while the speaker would not be able to predict that such constraints would exist, the fact that they do exist can be motivated in discourse-pragmatic terms. Knowledge of such constraints arises from abductive inference.

3.6. **Inheritance**

The English perfect system constitutes a network of interconnected information structures. These structures are pairings of form and meaning, i.e., grammatical constructions. In accordance with Goldberg (1992b) and Lakoff (1987), interconnections among constructions will be represented as inheritance links. Inheritance links capture relations of form and meaning which hold among constructions. The presence of these

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relations are inferred by speakers, on the basis of the full array of information structures; that is, as noted, these relations are 'after-the-fact' inferences. The ability to draw such generalizations is critical in learning, insofar as learning entails not only comprehension of an input datum but also recollection of that datum. Memory is associative. Furthermore, memory is finite; learners cannot simply store an endless list of unrelated facts. Therefore, the most effective mnemonic strategy is one which explicitly relates information structures. A given pairing of form and meaning is arbitrary, but the learning of a construction is facilitated by the learner's ability to discern a semantic or formal relationship anchoring that construction to some other data structure, be it a like construct or a more general conceptual model.

Lakoff (1987) has argued that certain idiosyncratic expressions are comprehensible by reference to highly productive metaphorical mappings. Let us take, for example, the VP idiom *to cash in one's chips*. One would not know *a priori* that this expression means 'to die', but the fact that this meaning is in fact assigned to that expression is explicable to learners, given their knowledge of two fairly general metaphorical mappings—DYING IS LEAVING (e.g., *He's passed away*, etc.) and LIFE IS A GAME (e.g., *a real winner*, *the deck's stacked against him*, etc.). This knowledge includes knowledge of gambling games, as well as the ability to infer the manner in which the relevant metaphorical mappings interact. The learning of an idiomatic expression often appears to rely upon the learner's ability to reconcile that expression with a metaphorically based knowledge structure. Accordingly, an idiomatic expression can be both arbitrary and motivated.

The ability to extrapolate a formal relationship between novel and known constructs will also aid the learner in acquiring a given form-meaning correspondence. Goldberg (op. cit.) argues that this type of learning is evidenced in children's acquisition of taxonomic relations. She cites a number of studies which show that children learn new subordinate-level terms more easily when these terms are compounded with basic-level terms already familiar to the learner. Thus, a child is likely to produce compounds like *robin-bird* in

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learning the names of various bird species. As Goldberg notes (p. 69), "[c]hildren learn new terms for concepts which are related to other concepts more easily when the new terms are systematically related to the terms for the other concepts". That is, a given formal relationship cues the learner that there exists a semantic relationship between novel and known constructs.

Certainly, we do not make a controversial claim when we state that extrapolation of semantic relationships among categories is intrinsic to the learning of a given taxonomy. However, the semantic affinities signalled by formal relationships are not necessarily taxonomic. Lakoff (1987) argues, for example, the image-schematic relationships signalled by the presence of the classifier *hon* in Japanese. This classifier, while generally reserved for nominals coding one-dimensional objects like rope, also attaches to event nominals coding object trajectories, e.g., a baseball hit. The presence of *hon* in the latter case signals that the category in question can be reconciled to that of one-dimensional objects. One could hypothesize that a more abstract concept, that of a trajectory, is learned by virtue of its semantic relationship to a more concrete concept, one-dimensional spatial extension. The availability of an image-schematic generalization over the two categories of entities is signalled by a formal relationship between the two words denoting those categories. Of course, it is in no way predictable that the two nominally encoded categories will be viewed as similar enough to merit the same classifier. The image-schematic generalization over classes of elements represents an after-the-fact inference—an inference which will, presumably, enhance the learnability of the more abstract novel concept.

The foregoing examples indicate that acquisition of linguistic structures commonly relies upon the evocation of relationships between two or more form-meaning pairings. While the pairings themselves are idiosyncratic linguistic facts, each such pairing is motivated to the extent that it is 'anchored' to a knowledge structure that the learner has mastered. The learner seeks to maximize redundancy among these knowledge structures. We will represent overlaps among information structures by means of inheritance links.

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The information structures in question are the various perfect constructions. As we will note below, the set of perfect constructions is not limited to the three inflectionally defined perfect types and the three PrP readings described. The system to be explored here is more extensive, containing not only nonfinite 'embedded perfects' (e.g., the 'modal past' *could have gone*) but also abstract constructions that represent semantic and grammatical generalizations over linguistically instantiated constructions.

The constructions within this system will be linked via relations of *normal-mode inheritance*, in which

> information is inherited from dominant nodes transitively, as long as this information does not conflict with information specified by nodes lower in the inheritance hierarchy. (Goldberg 1992b:72)

That is, relations of inheritance are not complete: some inherited specifications may be canceled or augmented by parochial constraints—constraints particular to the dominated construction. The fact that this type of inheritance network incorporates the provision of overrides distinguishes it from the variety of inheritance found in unification-based grammars. For example, the unification-based version of Construction Grammar proposed by Fillmore and Kay (1991) requires that in constructional representations, all levels of constituency share structure: information found in dominated nodes must be 'passed up' to higher nodes; the presence of conflicting specifications (i.e., attribute-value matrices) will result in an ill-formed structure.

In accordance with Goldberg (op. cit), we will represent relations of inheritance as links of various kinds. Following Lakoff (1987), we will assume that these links constitute objects within the inheritance network, and that there are a limited number of highly productive link types. These links may be used to represent patterns of semantic extension, e.g., metaphorical extension. One link of this kind is that which represents a type of

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perspectival shift: the decoupling of a deictic spatial or temporal reference point from the reference point provided anchored in the speech scene. We will presume that a link of this type can be invoked to represent, e.g., the synchronic relationship between the PrP and the so-called futurate PrP, to be discussed in the next chapter. Some links may be used to relate subtypes of a construction to a more general construction, where subtypes are defined by the presence of idiosyncratic properties of grammar and meaning. A link of this type, which will be exploited here, is that which Goldberg calls an *instance link.*

According to Goldberg, two constructions are related by an instance link iff one construction is a more fully specified version of the other. In the previous chapter, I argued that the Latin comparative condition can be regarded as an instance of the correlative construction. Instance links are used to relate highly schematic *general constructions* to more elaborated subtypes, where these subtypes are characterized by parochial and ecologically based constraints. General constructions are like phonemes: they are categories, and therefore do not receive vocal realization. General constuctions dominate one or more linguistically instantiated constructions, and express formal and semantic correspondences between those constructions. The dominated constructions may be formally distinct or merely semantically distinct. In cases of constructional polysemy, distinct readings of a given form may qualify as distinct constructions. I will propose that a general perfect construction dominates the three temporally inflected perfect constructions. This abstract construction 'houses' the general prohibition against the deictic specification of event time expressed by temporal adverbs like *yesterday*; this prohibition characterizes both the PrP and the PaP.

The status of general constructions in inheritance networks of the kind described by Lakoff and Goldberg has long been somewhat tenuous. The inheritance network proposed in Lakoff's case study of *there*-constructions contains central and extended construction types. All overlapping semantic and syntactic specifications are represented as features inherited from the central or immediately dominating construction, rather than being

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'factored out' from the central and extended senses and represented by means of a common constructional denominator, i.e., a general construction. It is not clear why such abstractions are not employed, although Lakoff has generally rejected 'abstractionist' accounts of the meanings of polysemous lexical items. For example, Lakoff and Johnson (1980) argue that in cases of metaphorically based semantic extension, one cannot typically regard the literal and figurative meanings as sharing semantic features. They argue that while lexical items like *warm* refer both to temperature and amicability (*Sally is a warm person*), there is no intrinsic semantic commonality uniting the two senses. They warn that one should not confuse a correlation in experience (bodily contact both induces warmth and indicates affection) with an *a priori* similarity between two concepts. The metaphorical mapping responsible for the semantic broadening in question is inherently asymmetric; a reasonably concrete conceptual field (a 'source domain') provides a foundation for understanding a more abstract conceptual field (a 'target domain'). Therefore, the organization of the sense network is asymmetric, consisting of a 'core sense' and one or more 'extended senses'.

This type of asymmetry is responsible for the existence of sense networks representing 'radial categories' which contain both central and peripheral members. These members may be referential elements, as in graded categories like *bird* (a penguin is a poor exemplar of the category, a robin an excellent exemplar), or senses of a polysemous lexical item, as above. In the latter case, as Traugott (1986) argues, the structure of the sense network, which is intended to represent a synchronically valid generalization, recapitulates the series of diachronic developments through which the extended senses arose. That is, the historically primary meaning represents the central sense, the extended meanings represent peripheral senses. The foregoing assumption is present in Sweetser's (1990) analysis of polysemous sensory vocabulary, and in her analysis of modal verbs. Sweetser argues convincingly that the motivation for certain diachronic sense extensions is revealed through an examination of meaning connections forged by modern speakers. In particular, she

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proposes that extant metaphorical mappings, which link conceptual domains, also licensed meaning shifts in which certain lexical items acquired readings referring to the metaphorical 'target domain'. Thus, e.g., an array of terms denoting vision come to refer to the domain of understanding (as Greek *oida* 'I know' < *horao* 'I see'). In such cases, the synchronic link between two senses of a polysemous vision term (e.g., *see*) closely resembles the evolutionary path (metaphorical extension) by which the secondary sense arose.

Studies like Sweetser's expose parallels between synchronic linguistic conceptual structure and the diachronic paths of meaning change. The present study does not deny the validity of this approach. Let us, however, reject the presumption that any semantic relationship between two or more linguistic elements exhibiting a formal correspondence is necessarily asymmetric. One need not presume that where two homomorphic form-meaning pairings, A and B, are linked in an inheritance network, A is the central sense and B an extended sense. This presumption is certainly defensible in cases of metaphorically based polysemy: metaphorical mappings are inherently asymmetric, in the manner outlined above. The presumption of asymmetry is also tenable in those cases in which a given meaning of a polysemous form is highly marked, insofar as it is limited to a small number of constructional contexts. One marked interpretation, to be explored in the next chapter, is the counterfactual reading of the PaP—an interpretation of the PaP form which exists only in the protases of counterfactual conditionals. In such cases, the putative extended sense is one which speakers could regard as a 'special' meaning.

In other cases, however, preservation of the presumption of asymmetry appears to be based upon the historic and/or ontogenetic primacy of a given form-meaning pairing within the sense network. [15] In cases of polysemy, we need not presume that the meaning that is

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[15] In fact, Lakoff himself incorporates abstract meanings into his representation of the sense network underlying the polysemous preposition *over*. Lakoff notes that *over* can refer to a relationship between a zero-dimensional moving trajector and a landmark; the trajector may or may not be in contact with the landmark:

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learned first is eventually stored as the 'core sense' within a radial network, simply because that sense is the least abstract. Sense relations are presumably extrapolated only once the speaker has knowledge of the full array of senses. Furthermore, constructional inheritance relations are discernible only once the speaker has knowledge of the idiosyncratic semantic and grammatical features which characterize the constructions to be related.

Thus, for example, the manner in which adult speakers relate distinct senses of the PrP will not necessarily mirror the sequence in which they learned those senses. The process of acquiring the senses is synchronized with cognitive development, whereas the process of discerning meaning correspondences among those senses is not. Slobin (1990) observes that the resultative sense of the PrP is acquired by children before the existential and continuative senses. He argues that this fact makes sense when we consider the general perceptual salience of result states and the fact that cause-and-effect relations are among the first concepts acquired during cognitive development. However, mastery of grammatical constraints associated with the resultative-perfect *construction* occurs only later—by which time the full repertoire of senses is known, and the resultative sense has no particular claim upon cognitive primacy. For the adult speaker, the existence of presently accessible consequences is only one type of 'current relevance' attributable to a past event by means of a PrP-form assertion. Since we wish to represent the adult speaker's knowledge of grammar, semantic overlaps among the three sense of the PrP will be symbolized by means of a general PrP construction.

Similarly, semantic overlaps among the various perfect types, PaP, PrP and FuP, can be represented by a general construction which is unspecified with respect to the tense of

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(a) He ran over the hill. (zero-dimensional trajector, contact)

(b) The bee buzzed over the table. (zero-dimensional trajector, no contact)

Lakoff proposes an abstract general sense subsuming these two senses; the abstract sense is neutral with respect to the 'contact' feature.

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the auxiliary head. Formal correspondence is a matter of degree. We refer to semantic correspondences as polysemy where the relevant forms are identical. When the relevant forms are to some degree distinct, we speak of more general semantic correspondences—what Fillmore, Kay and O'Connor (1988) refer to as "suggestive partial similarities". In this analysis, we will represent both the polysemy of the PrP and partial similarities among the temporally inflected perfect types by means of instance links, which will relate a set of form-meaning pairings to an abstract construction which represents semantic and grammatical commonalities among those pairings.

We will assume, moreover, that the relationships which these links represent are discerned on the basis of correspondences between form and meaning. The constructions in the perfect network are homomorphic: each consists of the (inflected or uninflected) auxiliary *have* followed by the past participle. The proposed network therefore differs from that proposed by Anderson (1982), who charts the semantic territory covered by the perfect and like constructs in various languages. He argues for the existence of a synchronically transparent semantic relationship between the PrP and similar means of expressing the present effects of completed actions. In the latter group, he includes the subject-experiencer construction (Brugman 1988) and the copular resultative, exemplified in (3.16-3.17):

(3.16) Phyllis had her car stolen.

(3.17) The freezer is defrosted.

The copular resultative, exemplified in (3.17), indicates that a theme argument, coded by the subject, is in a changed state; the changed state is expressed by the past participle (cf. Langacker 1991). Because it denotes a present resultant state, the copular resultative is synonymous with the resultative PrP. According to Jaxontov and Nedjalkov (1988), however, the distinction between copular resultative and resultative PrP has numerous cross-linguistic grammatical reflexes (cf. Hasegawa (forthcoming) for a discussion of the

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resultative/perfect ambiguity which characterizes the Japanese *V- te ar-* construction). For example, the copular resultative differs from the resultative perfect in that the former is necessarily monovalent, barring any specification of agency:

(3.18) Your car is fixed (*by Harry).

An English-specific ramification of the distinction between the copular resultative and the resultative PrP is the following: the copular resultative (at least in Modern English) prohibits a goal complement from accompanying a verb of motion: [16]

(3.19) Harry is gone (*to the store).

This situation differs from that in German (Anderson 1982). Consider the following contrast:

(3.20) Hans ist auf den Baum geklettert.
"Hans has climbed up the tree."

(3.21) Hans hat (*auf den Baum) geklettert.
"Hans has climbed up (*the tree)."

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[16] The English copular resultative, unlike its French and German analogues, does not in general accept motion verbs. Although the copular resultative had a function closely analogous to that of the perfect in Old and Middle English (Parsons 1990), the perfect appears to have taken over the function of encoding completed motion. Hence, in Modern English we find *Harry is gone* but no **Harry is left* or **Harry is run away*. Cross linguistically, the near synonymy of copular resultative and resultative perfect appears to lead to increased specialization of one or the other of these constructions, in the service of accentuation of contrast (cf. section 3.5). In French, for example, the copular resultative, as against the *passé composé*, is largely limited to verbs coding changes of location.

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In German, as shown, the presence of a goal complement requires use of the copular resultative rather than resultative perfect. The complementary distribution that exists in German is the mirror image of that in English, although, as mentioned, *go* is the only motion verb which is welcomed by the copular resulative. Consider the following contrast:

(3.22) a. Myron { is / has } gone.
b. Myron { *is / has } gone to the store

The German and English data given in (3.20-22) indicate that there are certain universal grammatical ramifications of the resultative-perfect distinction (e.g., those pertaining to valence restrictions), the particular distributional restrictions upon the two constructions must be examined relative to a particular grammar (cf. footnote 16). In English, the copular resultative represents a marked construction, with respect to the number of grammatical restrictions associated with it. Nevertheless, this construction has a fairly high *type frequency*. Type frequency is an index of the number of distinct words that occur in a given construction. Type frequency is opposed to token frequency, which refers to the sheer number of instantations of that construction in a given corpus (Goldberg 1992b). Type frequency is a measure of productivity. While, as noted, the copular resultative accepts both causative verbs like *paint* (*The wall is painted white*) and noncausative change-of-state verbs like *freeze* (*The lake is frozen*), it bars most verbs of motion. As Fleischman argues (1989:4), "when the system offers alternative forms with closely related meanings, the [more] peripheral form, which generally has the low[er] frequency of use, tends to disappear".

Why should English, or any language for that matter, retain the copular resultative when its semantic value is subsumed by the functions associated with the PrP? One response to this question relies on the utility of specialized form-meaning pairings: while the existence of a present result is only one message associated with the potentially

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ambiguous PrP form, the copular construction has only the resultative interpretation. Hasegawa (forthcoming) makes a similar claim with respect to Japanese when she characterizes the PrP-resultative contrast as a privative opposition. She argues (p. 2):

> It is generally understood that the [present] perfect indicates the continuing present relevance of a past situation, and that the resultative [perfect], which indicates both a state and a preceding event...from which it has resulted, is the clearest manifestation of the perfect (Comrie 1976). With this definition, all resultatives are perfects, and thus the [present] perfect and the resultative form privative opposites.

Hasegawa goes on to argue that the Japanese V- *te ar-* construction exhibits a privative ambiguity between resultative and PrP readings. It is also possible to regard the English copular resultative and PrP as privative opposites. The former construction encodes a resultant state identified with that entailed by the Aktionsart of the VP complement. Furthermore, since the copular construction accepts only intransitive participial VPs, the resultant state must represent a state that the subject-denotatum (rather than an object denotatum) is currently in. For example, upon hearing the sentence *The soup is cooled*, we will necessarily infer that the soup is a tepid state now. The PrP can be used to express the meaning associated with the copular resultative, e.g., *The soup has cooled*. However, the perfect can also encode a context-dependent resultant state, i.e., one which (a) is not identified with a goal state encoded by a telic verb and (b) does not represent a state of the subject-denotatum. For example, resultative-perfect predications like *I've looked outside*, which do not contain a resultative verb, can be used to explain why the speaker wants to bring an umbrella. In such cases, the assertion tells us nothing about the current state of the subject-denotatum (the speaker). Furthermore, the relevant resulant state is computed on the basis not of linguistic but of extralinguistic context—knowledge of the relationship between recent observation of the weather and present knowledge of ambient conditions.

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The copular resultative therefore has a more specific resultant-state implication than does the resultative perfect.

The relationship between English copular resultative and resultative perfect should not be represented by an inheritance link, since these constructions do not display a particularly compelling formal similarity. However, we would somehow like to represent the speaker's knowledge that two manifestly distinct constructs cover the same semantic territory, and that these two constructs contrast because the marked member of the opposition is characterized by idiosyncratic constraints of grammar or use. Such relations of contrast will be represented by *opposition links*. Opposition links will be used to indicate the semantic relationship between the resultative PrP and its near synonyms: the copular resultative and preterite. These links represent the speaker's knowledge of certain functional oppositions in the grammar. I will presume that such knowledge serves to motivate parochial features of grammar and use which are linked to a given construction.

We will begin our examination of inheritance relations in the perfect system by looking at the general perfect construction, and in particular at the manner in which a particular time-specification constraint—common to the PrP, PaP and (possibly) the FuP— is inherited from that construction.

3.7. The General Perfect Construction

The following are general statements concerning the co-occurrence possibilities for perfect and punctual [17] temporal adverbs: (a) no perfect, past or present, accepts deictic past-time adverbial expressions like *yesterday* and *three months ago*, (b) the PaP but not

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[17] We restrict our purview to punctual time adverbs, as one might consider adverbial elements like *before* (as in *I've seen him before*) to be deictic, insofar as the upper bound of the time span denoted is identified with speech time. Furthermore, we do not consider here adverbials which encode the inception of a time span, which may be deictically located, e.g., *since last week*. These adverbs do not qualify as punctual in that they do not directly encode the time within which or at which an event culminated, but only encode a lower bound for that time frame.

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the PrP accepts 'definite' past-time adverbs like *in 1970* (cf. section 3.2). Co-occurrence restriction (a) is exemplifed in (3.22):

(3.22) a. Harry has left the country (*yesterday).

b. [I heard that] Harry had left the country (*two years ago).

The proscribed adverbials are those which situate event time with respect to speech time. That is, a formal semantic representation of such adverbial expressions must incorporate reference to the time of the utterance event. Consider, for example, Herweg's (1991a) representation of the adverb *yesterday*, presented in slightly modified form:

(3.23) $\exists T \exists w (T(w) \& D(e^*) - 1 \supset t(w))$

In (3.23), t is a time, T is a predicate variable ranging over state-type predicates and event-type predicates, and w is an individual variable ranging over events and periods of time. The symbol D stands for a day-long interval, while e^* symbolizes the event of utterance. The time of the situation (state or event) is included in a period located one day prior to the event of utterance.

Restriction (a) can be stated at the level of a maximally general perfect construction, to which present, past and future perfects are related via instance links. The *sem* value associated with the general perfect construction will consist of an anteriority relation whose reference point is temporally underspecified: while speech time necessarily provides the reference point with respect to which 'pastness' is reckoned, [18] the reference point for

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[18] Herweg (ibid) gives the following representation for the relation PAST:

(a) $\exists T \exists w (T(w) \& PAST(e^*, t(w)))$

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'perfect-style anteriority' can but need not be speech time. The reference point in question may be a past or future interval. Adverbs like *yesterday*, *last week* and *two days ago* further describe the interval invoked by a past-tense assertion, whether they are interpreted as merely placing bounds on that interval or as completely identifying it (Partee 1984). These adverbs are compatible only with a deictically computed anteriority relation, i.e., the past.

Since constraint (a) refers to deictic *past-time* adverbs, the FuP is not, strictly speaking, germane to this discussion. In fact, the place of the FuP in the perfect system is difficult to discern. Like the future-tense specifier attached to the auxiliary head, the FuP can be regarded as a modal construction (cf. section 4.3). The modal nature of the English future has induced some (e.g., Foley and Van Valin 1984) to regard the English tense system as expressing a bipartite opposition between past and nonpast. The English *will*-future appears to be a modal construction, rather than a 'true future', because it welcomes temporal adverbs encoding present time (e.g., *now*): *We will now begin.* Therefore, the FuP appears to be an instance of the nonfinite or embedded past: it is composed of a modal (*will*) whose complement is a past infinitive expressed by *have* and a participle (cf. section 4.3). It seems that we gain little—other than an appearance of symmetry—from the presumption that the FuP represents an instance of the general perfect construction. Constraint (a) does not include deictic *future* event-time specification: the deictic *tomorrow* can co-occur with the FuP in sentences like (3.24):

(3.24) Harry will have left tomorrow.

In (3.24), *tomorrow* may modify event or reference time. In the former case, reference time is some time after tomorrow; in the latter case, reference time is tomorrow. Therefore,

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The representation given in (a) specifies that the time of the situation is located with respect to the time of the utterance.

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the FuP appears not to exclude deictic temporal adverbs. However, constraint (a) may in fact be relevant to the FuP, since, as we saw in footnote 2, event time may be in the past relative to speech time. Does the FuP accept deictic past-time adverbial specification in this situation? Consider the following example:

(3.25) Harry will have bought some flowers yesterday.

Imagine the following context for this assertion: the speaker is about to meet Harry at the door, convinced that she will find him bearing flowers purchased the day before. Here, event time precedes speech time, and reference time (the time at which the door is opened) follows speech time: E...S...R (cf. section 3.1). Most speakers report that the presence of *yesterday* here is peculiar. If the FuP is treated as an instance of the general perfect construction, the oddness of (3.25) can be attributed to constraint (a). Constraint (a) in turn arises from the principle that deictic past-time adverbs are incompatible with forms of past time reference which express a nondeictic anteriority relation, i.e., one incorporating a reference point that is not *necessarily* equated with speech time. Is the FuP an instance of the general perfect construction, or is it simply a modal past? Goldberg (1992b), cites instances of multiple inheritance, in which a given construction inherits features from two or more constructions. Accordingly, we will presume that the FuP is an instance of both the nonfinite perfect and the general perfect construction.

Figure 3.1 shows the general perfect construction:

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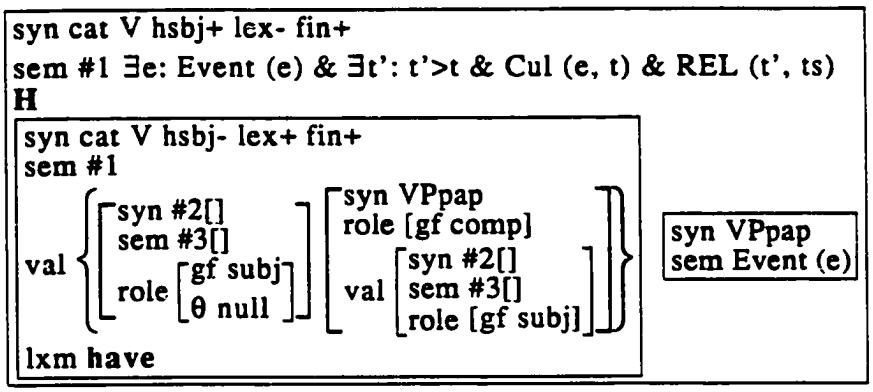


Figure 3.1: ***The General Perfect Construction***

The statement of the topmost *sem* value of the construction is incomplete, owing to unfortunate limitations of the character-formula program. Firstly, the temporal variable *t*, which represents reference time, should be bound by an existential quantifier. Secondly, a further specification is necessary to secure the stative character of the situation denoted by the perfect (i.e., the D-situation). This specification, which should be located in the place occupied by the boldface *H*, is given in (3.26):

(3.26) [**Have-occurred** (e)] (t'') & Time (t'', t')

In combination with (3.26), the *sem* value of the construction states that there exists an event which culminated prior to some time (*t'*); this time is the reference point with respect to which the anteriority relation is calculated. Furthermore, there is a state predication *Have-occurred (e)* ; this predicate denotes the state of aftermath following an event. As indicated, this state obtains for some interval *t''*; this interval is equated with the temporal reference point *t'* by means of the function *Time* (cf. chapter two). The temporal relation between the reference point and speech time is unspecified; the operator REL ranges over the specific temporal relations PAST, PRES and FUT. This ensures that the reference point is not necessarily equated with speech time. As shown in (3.23), however, deictic past-

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time adverbials express an anteriority relation necessarily calculated with respect to speech time (e.g., one day prior to the day of utterance in the case of *yesterday*). The decoupling of speech time from the reference point for anteriority prevents any given deictic past-time adverb from unifying with the *sem* value of the general perfect construction.

The head of the construction, as indicated, is the auxiliary *have*. As discussed in section 1.3, this auxiliary is treated as a raising predicate (cf. Fillmore and Kay 1991): the subject is assigned no theta role within the valence of the auxiliary. The *sem* value of the auxiliary head unifies with that of the superordinate structure, as indicated by the unification index *#1*. The denotatum of the participial complement contributes the event-type predicate represented by the cover term *Event*.

3.8. Conclusion

In this chapter, we have seen that Klein's (1992) compositional analysis of the perfect system is subject to insuperable objections. In particular, it was shown that despite obvious semantic and formal parallels, the PaP and PrP must be regarded as distinct grammatical constructions. The evidence in favor of this analysis derives from parochial constraints of grammar, use and interpretation which attach exclusively to the PrP. The parochial nature of these constraints was upheld in light of the inadequacy of general explanations for the temporal-adverb co-occurrence facts, e.g., Klein's P-Definiteness Constraint, by which an apparently unmotivated grammatical split between the PaP and PrP—involving acceptance of event-time specification—is attributed to the distinct reference times evoked. This explanation was rejected not only because it falsely rules out examples like (3.14), but also because it fails to account for the distinct grammatical and discourse-pragmatic reflexes of the existential-resultative ambiguity which characterizes the PrP. Accordingly, we found that the semantic and grammatical constraints attached to various readings of the PrP cannot be explained when we assume that the meaning of each perfect form is a combination of a given tense specification and an anteriority relation.

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At the same time, I have argued that the recognition of noncompositional meaning does not remove the basis for referring to the set of perfect-form expressions as a *system*. The repertoire of perfect constructions, as conceived here, is not a list of arbitrary facts, but a constellation of interrelated information structures. Most of these interrelations are relations of inheritance, which express correspondences of form and meaning between two or more constructions. Inheritance relations are represented here by means of inheritance links of two kinds: instance links and semantic-extension links. A link of the former kind relates the PaP and PrP to the general perfect construction, an abstract (i.e., nonlinguistically instantiated) construction from which the inflected subtypes inherit semantic and grammatical constraints. A link of the latter kind relates the general PrP construction to nondeitic uses of the PrP, to be discussed in the next chapter.

In accordance with Goldberg (1992b) and Lakoff (1987), I have presumed that a construction is motivated to the extent that it shares information with independently needed constructions. However, I argued that inheritance is not the only form of motivation in grammar. Use conditions, like that preventing the resultative PrP from expressing a pragmatically presupposed event proposition, may be subject to after-the-fact explanation based upon some facet of systemic ecology—in this case, the discourse-functional opposition between PrP and preterite.

The next chapter will be devoted to a detailed investigation of the various components of the perfect system.

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Chapter Four: Three Perfect Forms

In this chapter, we will investigate interpretive constraints associated with three perfect forms: the past perfect, the present perfect, and the nonfinite perfect. In the last class, we include the participial perfect, exemplified by sentences like *Having failed, he felt discouraged*, and the bare-stem infinitival perfect, exemplified by modal predications like *She must have left.* In particular, we will examine evidence that each of these formally defined categories subsumes two or more distinct grammatical constructions. In concluding this chapter, we will examine a diagrammatic representation of the perfect system.

4.1. The Past Perfect

The function played by the PaP in sequence-of-tense (SOT) rules is well known (cf. Hornstein 1990). The PaP indicates anteriority with respect to a past reference point. In this capacity, the PaP can indicate anteriority with respect to the reference time evoked by a verb of speaking or thinking: *Harry thought that he had misplaced the telephone book.* In this sentence, the PaP denotes a temporal relation which would have been denoted by the preterite in a direct quotation of Harry's thoughts at that past reference time: "I misplaced the telephone book". Heny (1982) argues that we need not presume the existence of SOT rules in order to explain the use of the PaP in indirect discourse. Instead, he proposes that the context-sensitivity of the temporal-anteriority relation is never closed off: where an event is past with respect to a subject's past intentional state, the grammar will reflect the fact that this event is anterior to a time which is in the past vis-à-vis *the time of speech.* By the same token, simultaneity with respect to a past intentional state is described by means of the past: *Myron said he was depressed.* The use of the past here reflects the fact that the state denoted is past with respect to the time of speech, rather than the time at which the subject is speaking or thinking. In other words, the past time evoked by indirect discourse is described objectively rather than subjectively. Of course, the preterite often replaces the past in sentences like that cited: *Harry thought he misplaced the telephone book.* It is

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difficult to tell, *a priori*, whether this sentence denotes a relation of anteriority calculated within Harry's consciousness, or whether it simply provides evidence for the claim, advanced earlier, that the preterite is expanding it semantic range at the expense of the PaP (cf. footnote 11, chapter two).

The use of the PaP to encode past time in the protases of counterfactual conditionals (and in the complement clauses of the verb *wish*) is more difficult to reconcile with its function in main clauses (i.e., that of indicating past-in-past anteriority). The conditional use is exemplified in (4.1a), where it is contrasted with the use of the past and present tenses in conditional protases to indicate, respectively, an improbable future eventuality and a likely future evenutality:

(4.1) a. If you had given him enough time, he would have conned all of us.
b. If you moved to New York, you'd hate the humidity.
c. If Krueger loses, Texas will have two Republican senators.

In the counterfactual use exemplified in (4.1a), the PaP does not express anteriority with respect to a past reference point. Instead, it encodes the speaker's judgement that the situation denoted by the protasis clause was not realized. According to Fleischman (1989:4), this function of the PaP arises from a systematic conceptual mapping in which "temporal distance in the direction of the past is pressed into service to express modal distance, in particular to signal the speaker's assessment of the 'certainty/reality/actuality status' of a predicated situation". In particular, we will examine the distinct temporal relations signaled by the past and the PaP in the protases of counterfactual conditionals. I will argue, in accordance with Fleischman, that the counterfactual use of the PaP represents a semantic extension of the basic meaning of that construct.

In what follows, we will first examine the interpretations associated with the PaP in simple clauses, and then proceed to an investigation of the function of the PaP in

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counterfactual conditional and desiderative contexts. That discussion will conclude with a look at the manner in which the PaP may signal 'social' as well as epistemic distance.

4.1.1. Uses of the Past Perfect

The PaP can be said to represent a neutralization of the preterite-perfect contrast described in section 3.2. The contexts of neutralization are those reporting conditions under there is a lack of identification between the time of the utterance event and the time with respect to which temporal anteriority is reckoned. Let us refer to the latter time as a reference point. In the case of the preterite and PrP, the reference point is speech time. (In this discussion, we must be careful not to confuse reference *point* with reference *time*, the latter being a past time in the case of the preterite.) In the case of the PaP, the reference point is a past reference time. Given a particular PaP-form clause, we have no means of telling, *a priori*, whether that PaP form expresses a back-shifted preterite or a past event whose 'relevance' continues to the past reference time. Thus, for example, we may find it difficult to determine, upon hearing the sentence *Harry once claimed that Luis Buñuel had won 'Best Foreign Film'*, whether Harry's past assertion is correctly reconstructed as "Luis Buñuel won 'Best Foreign Film'" or "Luis Buñuel has won 'Best Foreign Film'". (A similar point is made by both Mittwoch (1988) and McCawley (1971)). In the case of the latter reading, the PaP-form clause is itself ambiguous with respect to the following readings: (a) Buñuel was given the award at the most recent ceremony (the report may have been issued during the ceremony) (b) Buñuel had received the award at some point in his career. [1] These two readings are familiar from our discussion of the ambiguity of the PrP.

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[1] It would seem that the preterite-perfect ambiguity which characterizes the PaP-form embedded clause can be resolved by a feature of the extralinguistic context: whether Buñuel was alive at the time that Harry made his assertion. It has been noted (e.g., by Chomsky 1971) that the perfect requires its subject denotatum to be extant at the time of speech. In accordance with McCawley (1971), I presume that this constraint can be attributed, in large measure, to the replicability condition on the existential PrP: one who is now deceased cannot now perform the action coded by the participial complement. I follow R. Lakoff

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The PaP, we have noted, is capable of expressing the three meanings discussed in connection with the PrP: resultative, existential and continuative:

(4.2) a. He had cleaned the house when Madge arrived.

b. Harry had visited Paris several times since meeting Jolene.

c. They had been waiting for their table for an hour.

Sentence (4.2a) asserts (or, as we shall say later, conventionally implicates) that, owing to Harry's action, the house was in a state of cleanliness at the past reference point defined by Madge's arrival. Sentence (4.2b) asserts that there were several events of visiting Paris within a time span whose lower bound is the time at which Harry met Jolene and whose upper bound is some time in the past. Sentence (4.2c) asserts that a state phase of two hour's duration culminated at a past reference time. These readings appear simply to be backshifted versions of the comparable readings recognized for the PrP. Accordingly, the PaP predications in (4.2b-c) are accompanied by characteristic adverbial elements: *since*- and *for*-phrases of duration in the case of the continuative and existential perfects, and the frequency adverb *several times* in the case of the existential perfect. Insofar as this is the case, we can regard the PaP as ambiguous with respect to the relevant readings. [2]

(1970), however, in presuming that the evocation of a deceased subject-referent can be reconciled with the resultant-state implication associated with the resultative PrP. In some cases, the resultative assertion requires that we endow this subject with what McCoard (1978) refers to as a 'posthumous existence': *Kerouac has enriched my life*. The author mentioned is now deceased, but he continues to exert some effect through his works.

[2] It is necessary to distinguish between the ambiguity of the morphosyntactic template and the ambiguity of a given instance of that template. We will note in the next chapter that constructional ambiguity, such as that discussed by Goldberg (1992a) with respect to the English ditransitive, does not

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However, as mentioned above, certain grammatical reflexes of that ambiguity are not present in the case of the PaP. We noted in chapter three that the PaP, unlike the PrP, welcomes definite punctual past-time adverbials like *in 1970*. This being the case, we find no ramifications of the resultative-existential split akin to those exemplified in (3.11a-b), repeated here for convenience:

(3.11) a. Our committee chair has (??angrily) tendered his resignation.

b. Our committee chair has angrily tendered his resignation every time we have asked him to take a controversial stand on something.

c. [Pushed to take a stance], our committee chair had angrily tendered his resignation, [and we were hard pressed to find a replacement].

As shown, the resultative PaP, unlike the resultative PrP, does not reject definite temporal specification of event time. Furthermore, as shown by the examples given in (3.11), the resultative PaP, unlike its present-tense analogue, does not exclude manner modification of the participially coded event (i.e., the R-situation). Hence, in the case of the

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necessarily entail the *potential* for sentential ambiguity. A given instance of the PrP is, however, potentially ambiguous. Note sentence (a):

(a) I've been ill.

This sentence may indicate that the speaker's illness represents a state phase culminating at speech time (continuative reading), or that there have been one or more episodes of illness in the speaker's history (existential reading), or that the speaker is currently out of sorts as a result of a recent bout with the flu (resultative reading). Of course, the potential for ambiguity may be unmet in the case of sentences like (a), owing to the presence of a durational adverb like *for the last two weeks*, which will select for the continuative reading.

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PaP, the presence versus absence of the manner-modification constraint does not provide evidence for a resultative-existential ambiguity. [3] In addition, to foreshadow our discussion of pragmatic presupposition and the perfect, we find that the resultative PaP, unlike the resultative PrP, is capable of denoting a pragmatically presupposed event. Consider the contrast given in (4.3):

(4.3) a. #How have you arrived at your decision?

b. [The verdict astonished everyone.] How had the jurors arrived at their decision?

Content questions (or *wh*-questions) serve to request additional information about a state of affairs that speaker and hearer know to have occurred or obtained. *How*-questions, exemplifed in (4.3), are used to ascertain the means by which some action, known to have been performed, was accomplished. Sentence (4.3a) demonstrates that the resultative PrP is not welcome in this constructional context; instead, the preterite is required here. The crosshatch symbol is used to indicate that the sentence is unacceptable only on a resultative reading; (4.3a) is potentially interpretable as an existenial perfect: the NP *your decision* has a type rather than a token reading, and the sentence seeks further information about a number of deciding events (this reading is evoked by the presence of the time-span adverbial like *in the past*). Thus, the PrP is proscribed in this constructional context only when it has a resultative reading. In (4.3b), by contrast, there is no acceptability split. We

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[3] As we will note in the next chapter, investigators attempting to distinguish vagueness from ambigiuty often note the presence of distinct grammatical patterns associated with the distinct understandings of the form at issue. Zwicky and Sadock (1975, 1986) argue, however, that such evidence is often of questionable validity, insofar as these distinct grammatical traits (or "added material") may represent elements of context which in fact impose the relevant readings. In the following chapter, we will discuss this argument with respect to the ambiguity of the PrP.

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see here that the PaP, on a resultative reading, can be used in a *how*-question to refer to an event proposition which is pragmatically presupposed. In the next chapter, we will see that the unacceptability of (4.3a) (under a resultative reading) can be attributed to a discourse-pragmatic constraint upon the resultative PrP construction.

A further distinction between PrP and PaP concerns the existential reading. As I will argue in chapter five, the PrP on the existential reading is constrained by a semantic restriction which McCawley (1971) labels the 'present-possibility' requirement: the event or episode type denoted must be one that could be instantiated at present. Consider the following contrast (suggested by C. Fillmore):

(4.4) a. ?Assyria has had many wise rulers.

b. Syria has had many wise rulers.

Sentence (4.4a) is peculiar in that Assyria is no longer extant, which obviates the possibility of any episode of reigning by a ruler within the present epoch. Sentence (4.4b) is nonanomalous: since Syria is a country that exists now, the speaker can safely assume that there may be a ruler currently enthroned. Therefore, the present-possibility requirement is satisfied. Note however, that a PaP-form assertion analogous to (4.4a) is unremarkable:

(4.5) [Harry found that] Assyria had had many wise rulers.

An existential PaP cannot, of course, be bound by the present-possibility requirement, since its reference time is past. We might, however examine whether an existential PaP requires replicability at the *past* reference point equated with Harry's discovery. Given that (4.5) is not anomalous, we can conclude that the replicability restriction does not characterize a PaP interpreted existentially.

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The foregoing observations suggest that while the tripartite ambiguity which characterizes the PrP is also associated with the PaP, certain semantic and grammatical ramifications of that ambiguity are unique to the PrP. The distinct readings of the PrP will be regarded as separate constructions, i.e., distinct pairings of form and meaning, each of which is characterized by idiomatic grammatical and semantic constraints. Is a similar style of analysis available in the case of the PaP (or, for that matter, the FuP)? In fact it is; however, the individual constructions will require less elaborate statements. Therefore, we will concentrate in chapter five upon the manner in which the resultative-existential-continuative ambiguity is manifested with respect to the PrP form. Let us now turn to the use of the PaP to express past time in counterfactual conditional and desiderative contexts.

4.1.2. The Past Perfect and Epistemic Distance

As pointed out above, the PaP expresses past-time reference in the protases of counterfactual conditionals, as well as in finite complements of the verb *wish*. In order to explain this use of the PaP, Fleischman (1989) presumes a scalar mapping of temporal relations onto likelihood of occurrence. With respect to the use of tense in the protases of conditionals in particular, she argues (p. 5):

> The greater the likelihood that a situation will be realized, i.e., the closer to 'reality' the speaker perceives it as being, the closer to 'now' (= PRESENT) will be the tense used to represent it; similarly, the lesser the likelihood ascribed by the speaker to the situation, the further in the direction of past will be the tense used to represent it.

Two examples of this principle are found in (4.1b-c). Sentence (4.1b) is a hypothetical conditional, in which the improbability of a future situation denoted by the protasis is signaled by the use of the past tense. Sentence (4.1c) is a 'real' or 'vivid' conditional, in which the relative likelihood of the eventuality coded by the protasis is expressed by the use of the present. In example (4.1c), however, the protasis does not refer to a situation yet to

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be realized; the protasis encodes a situation which was not realized at some past time. Therefore, it is difficult to understand how the counterfactual PaP can be said to signal a particular degree of likelihood of future realization. In what follows, I will suggest that the contrasts given in (4.1) do not concern the likelihood of future *realization*, but the likelihood of future verification by the speaker.

Subsequently, however, I will argue that the protases of counterfactual conditionals and hypothetical conditionals do not invoke gradations on a single epistemic scale, but instead represent partially overlapping semantic categories: when the protasis contains a past-tense stative predication, the contrast between present- and future-time reference is neutralized. In the following discussion, we will confine our remarks to the use of the PaP and past tense in hypothetical and counterfactual conditionals; we will not examine 'open conditionals' in which the past tense retains its 'literal value', serving as a marker of past-time reference in the protasis, e.g., *If he arrived yesterday, we'll see him today.*

Fleischman argues (p. 6), in line with the traditional view, that the protasis of a conditional sentence "sets up an imaginary world in which X is the case". As we noticed above with respect to (4.1b-c), the tense in the protasis is present if the speaker views X as a likely future occurrence, and past if the speaker views X as an improbable future occurrence. This contrast is again exemplified in (4.6):

(4.6) a. If she loses weight, she'll look great.

b. If she lost weight, she'd look great.

The antecedent of (4.6b) is presented as a less likely eventuality than the antecedent of (4.6a). A judgement of improbability entails some degree of epistemic dissociation, since a situation viewed as improbable is also viewed as a situation whose occurrence is unlikely to be verified at any point in the future.

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Let us presume that there is a scale of 'likelihood of future verification', whose origin is failure to obtain at a past or present point. A judgement of failure to obtain entails greater epistemic dissociation by the speaker than a judgement of improbability, since there is no point in the future relative to the utterance time at which a situation which did not occur or does not obtain now will be a part of history as known to the speaker. By contrast, a situation viewed as improbable may well belong to history at some point in the future, as far as the speaker is concerned. Since tense is mapped to degree of likelihood of future verification, and past tense indicates a 'moderate' likelihood of future verification, it makes sense that a situation which will never be a verifiable part of history will be encoded by the remote-past form, the PaP. Accordingly, the PaP serves to express a *nonactualized event*—an event which did not occur—in both conditional and desiderative counterfactual contexts (*If he had liked her..., I wish he had liked her*).

The analysis that I have just offered is not entirely satisfactory, as it would lead one to predict that all nonactualized events encoded by (counterfactual) conditional protases are expressed by means of the PaP. In fact, certain nonactualized situations are encoded by past-tense predications in counterfactual protases. These situations represent states, although state predications depicted as nonactualized situations can also appear in the PaP. Consider the examples in (4.7):

(4.7) a. If you **looked** younger, you'd get a promotion.

b. I wish he **had liked** Harry.

Sentence (4.7a) shows that the preterite is used to encode states which fail to obtain at the present time. Sentence (4.7b) shows that the PaP is used to encode situations which failed to obtain in the past. Given these facts, we can conclude that the expression of counterfactuality is sensitive to the past-nonpast distinction. Past situations, whether events or states, are encoded by the PaP in counterfactual protases, while culmination prior to

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speech time is ordinarily expressed by the simple past. Imperfective situations obtaining at present, ordinarily encoded by means of the present tense, are expressed by the past tense in counterfactual protases.

This situation is complicated somewhat by the fact that sentences like (4.7a) are vague with respect to present-counterfactual and hypothetical (i.e., futurate) readings. The latter reading of (4.7a) is evoked in a context in which the speaker is alluding to a future time following some cosmetic surgery contemplated by the addressee. In this context, looking younger is a 'somewhat likely' future eventuality, since the addressee may or may not have the cosmetic surgery. In the counterfactual reading of (4.7a), no future period is under consideration; the sentence merely refers to a state of affairs (the addressee's looking younger) that does not obtain at present.

The fact that past-tense predications are vague with respect to hypothetical and counterfactual interpretations in sentences like (4.7a) suggests that the past tense, when serving as a marker of epistemic stance, participates in two different oppositions. First, the past tense expresses a lesser degree of probability than does the present tense. The present is used to denote likely future events (4.6a), while the past denotes possible future events (4.6b). The contrast is one of relative likelihood; the two contrasting forms both denote future situations. Second, the past tense expresses a tenselike contrast involving the PaP; the past tense encodes a situation cotemporaneous with the reference point (4.7a), the PaP a situation anterior to the reference point (4.1c). The point of semantic similarity linking the two contrasting forms is that each expresses a *nonactualized situation*. I will define a nonactualized situation as one which either fails to hold at present or failed to occur in the past.

Under this analysis, there is not (*pace* Fleischman) a direct tripartite opposition among PaP, preterite and present in conditional protases. This seems to be a desirable result; as we observed above, it is difficult to reconcile the notion of failure to occur or obtain with that of relative likelihood: the latter pertains to future situations, the former to past or present

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situations. In the present analysis, the tripartite contrast described by Fleischman is resolved into two distinct contrasts; these contrasts operate within the system of tense markers in their capacity as exponents of epistemic distance. The past tense is a juncture in this system: by participating in two distinct contrast pairs, the preterite anchors two oppositions. This situation is schematized in figure 4.1:

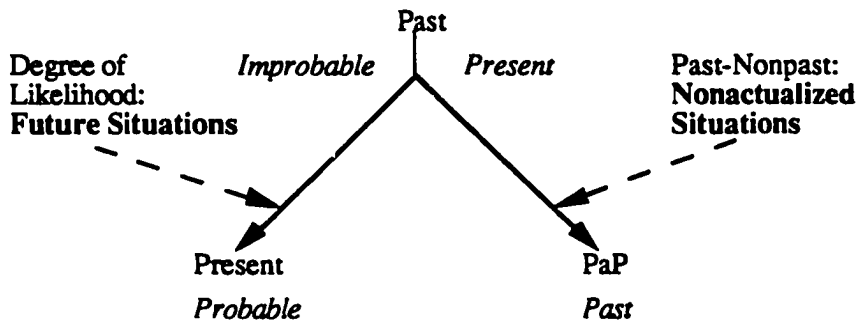


Figure 4.1

Figure 4.1 shows the two types of contrasts in which the preterite participates, in its function as a marker of epistemic stance in conditional protases. The two contrasts are represented by the legs of the inverted V. At the point of the inverted V is the past tense; this location indicates that the past tense contrasts with both the present tense and PaP. As indicated by the two italic labels *improbable* and *present*, found near the point of the V, the past tense has a different meaning in each contrast pair. In the contrast labeled *Degree of Likelihood*, the preterite contrasts with the present. The present denotes a probable situation, as indicated by the italic label *probable* below the left leg of the inverted V. In the contrast labeled *Past-Nonpast*, the past contrasts with the PaP. The PaP denotes a past situation, as indicated by the italic label *past* below the right leg of the inverted V. The types of situations denoted by the members of each contrast pair are described by boldface labels indicating the type of situation denoted by the protasis clause. The label *Nonactualized*

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Situations denotes those situations which the speaker believes either fail to obtain at present or failed to obtain/occur in the past. The label *Future Situations* denotes those situations which the speaker believes to be possible future eventualities.

The contrasts in question are operative primarily in conditional protases, although, with the exception of the preterite of improbable situation, all forms are also found in the complement clauses of desiderative verbs. The present of probable situation characterizes finite complements of the verb *hope* (*I hope you get well soon*), while the preterite and PaP denoting nonactualized situations occur in the complement-clause type associated with the verb *wish* (*I wish they listened to me, I wish she had listened to me*).

It is worth noting that the PaP is the only member of either contrast pair shown in figure 4.1 which retains something of its 'literal' value: it expresses past time, although not with respect to any past reference point. The reference point in question is simply the time of speech. The use of the PaP to express the counterfactual past makes sense when one considers the set of temporal oppositions available for the expression of contrasts in epistemic stance. The PaP has become an exponent of simple past-time reference in counterfactual contexts because the use of the past tense for this purpose was preempted: the past tense was already used to express present time in counterfactual protases. Since the PaP, under its literal reading, expresses a greater degree of temporal distance (with respect to the speaker's present) than the preterite, we can account for the fact that speakers were led to employ the PaP a marker of past time in counterfactual protases.

Of course, it is not *a priori* predictable that the PaP should serve as a past-tense marker: the counterfactual interpretation of the PaP appears to be a highly conventionalized semantic extension of the PaP construction, especially since that interpretation is limited to certain grammatical contexts. However, the meaning of the counterfactual PaP is *motivated*, since the PaP-preterite contrast in counterfactual contexts mirrors the manner in which the PaP as a marker of past-in-past anteriority contrasts with the preterite *qua* tense marker. In both cases, the PaP indicates a greater degree of displacement from speech time, in the direction

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of the past, that does the preterite, whether the preterite evokes true past-time reference or the speaker's judgement that the denoted state of affairs fails to obtain. The relationship between that PaP which represents a relative tense and that which represents a counterfactual past will be captured by an inheritance link representing a general pattern of semantic extension: that in which a tense marker becomes a marker of the speaker's epistemic stance toward the encoded state of affairs. This link, which we will refer to as a *distality link*, is intended to represent the speaker's (implicit) knowledge that the counterfactual PaP represents a special (construction-specific) use of the PaP, in which the form does not encode past-in-past anteriority, but a simple past-tense relation.

Given that the ecological conditions sanctioning the counterfactual usages of past and PaP are present in all languages which contain a tense opposition between past and PaP, we would expect that the pattern of semantic extension in question is a fairly common one. In fact, as Fleischman observes, it is, although the exact nature of the past-PaP distality contrast will differ according to whether the language at issue contains a synchronically viable subjunctive-indicative mood contrast. In French, for example, the past-nonpast contrast vis-à-vis counterfactual situations is expressed in a manner similar to that found in English: the imperfective past contrasts with the PaP. In Spanish and Latin, however, the imperfect subjunctive contrasts with the PaP subjunctive in the protases of counterfactual conditionals. This contrast also obtains in counterfactual desiderative clauses. Consider the following Latin sentences, which exemplify a main-clause counterfactual-desiderative construction:

(4.8) a. Utinam adesset!
Would-that be-here:3psg:imp:act:subj
"Would that he were here!"

b. Utinam venisset!
Would-that come:3psg:PaP:act:subj

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"Would that he had come!"

In (4.8a), the wished-for situation represents a state that, if actual, would obtain at present; accordingly, the imperfect subjunctive is used. In (4.8b), the speaker's vain wish concerns a perfective situation—one which, if actual, would have culminated prior to the time of speaking. Accordingly, the subjunctive PaP is used.

In concluding this section, let us examine another function of the PaP relevant to the use of past-time temporal reference to indicate that some linguistic content cannot be directly evaluated by the interlocutors. This usage involves the marking of 'social distance' in speech acts likely to be perceived as directives—requests, invitations, questions. We observed above that the use of past-time reference is indicated in situations in which the speaker declines to vouch for the actuality or certainty of a state of affairs. Given this function of past-time reference (both preterite and PaP), we might regard the past tense as encoding, in addition to strict temporal priority, the speaker's assessment that the state of affairs expressed by a given utterance is removed from the set of situations that speaker or addresee can conceivably verify. [4]

Situations subject to possible verification by speaker or hearer are those which represent assertions about past or present states of affairs, as well as predictions made with a fair degree of confidence. When the speaker makes a prediction (e.g., *The garbagemen will pick up tomorrow*), the speaker and/or hearer may be aware of the present existence or absence of preparatory conditions which will determine whether the prediction will prove true (e.g., the garbagemen may currently be on strike). When a speaker makes an assertion

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[4] From the claim that past situations can conceivably be verified, we cannot conclude that they are necessarily verifiable by either the speaker or the hearer. Often, the hearer has no way of knowing whether the speaker is speaking truthfully in asserting that a certain event occurred in the past. However, when speakers are observing the quality maxim, they will tend not to make assertions—whether reports or predictions—for which they themselves lack adequate evidence.

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about a past or present situation, the speaker may present that situation as one which he or she has directly experienced and can therefore verify (e.g., *Our dinner burned*). Propositions cannot be directly evaluated are those which pertain to states of affairs which the speaker presents as unlikely to exist, nonexistent, or not directly experienced.

Situations in this last class are those which the speaker knows about either through hearsay (someone told him or her that it happened) or through inference: the speaker has direct access to a certain state of affairs, and reconstructs the etiology of that state of affairs. That is, the speaker reasons abductively, from effect to cause. Both the availability of a report and the presence of a putative resultant state license the supposition that a certain event happened, although the speaker cannot directly vouch for that occurrence. Languages which mark the distinction between direct and indirect sources of evidence may further distinguish between the two forms of indirect evidence, abductive inference and hearsay.

In such languages, tense-aspect oppositions may provide the means of encoding evidential distinctions. In general, the more remote the evidence, the more remote the past-tense form, although, as Fleischman observes (p. 25), "it is difficult to identify systematic correlations between a temporal continuum and a corresponding cline of evidential distinctions". For example, Fleischman cites evidence (taken from Laprade 1981) that in the Spanish dialect of La Paz (Bolivia), subject to adstratum influence from the indigenous Jaqi languages, speakers have employed Spanish tense-aspect distinctions for the purpose of expressing evidential distinctions characteristic of Jaqi. In this dialect, witnessed events receive the simple past or PrP, while events known about through hearsay or reconstructed through abductive inference receive the PaP. Fleischman (p. 29) discusses the following contrast:

(4.9) a. Me he cortado [PrP] mi dedo.
"I cut my finger."

b. Me había cortado [PaP] mi dedo.

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"Oh, I cut my finger (I hadn't realized)".

A similar situation obtains in Turkish (Slobin and Aksu 1982): the preterite marker *di* is used to encode a directly experienced past situation, while the preterite marker *mis*, which originated as a resultative PrP, is used evidentially to encode an indirect source of evidence, either hearsay or abductive inference. Slobin and Aksu argue that the function in which *mis* expresses hearsay is in fact an extended use of the PrP *qua* evidential marker: in the case of abductive inference of the sort exemplified in (4.9b), the resultant state is manifest to the speaker—only the causal event is external to his immediate consciousness. In the case of the hearsay use, both the causal event and its effect are external to the speaker's consciousness. The hearsay use represents a further attenuation of the speaker's capacity to directly evaluate the validity of the proposition at issue.

The use of distal marking does not necessarily involve the ability of the interlocutors to evaluate the veracity of some propositional material. Distal marking may be used in speech acts, to 'soften' the force of requests. Consider the following examples:

(4.10) a. Did you want to see me about something?

b. I wanted to know if you'd be interested in coming along.

The sentences in (4.10) do not refer to past time. The inquiry in (4.10a) pertains to the addressee's present rather than past desires. The invitation in (4.10b) is in force at the present time, rather than in the past. By using the past tense, the speaker of (4.10a) invokes the possibility that the hearer may no longer be interested in an audience with the speaker. Accordingly, the speaker implies that the hearer is not necessarily responsible for presenting the case for a meeting. In employing (4.10b), the speaker suggests that the invitation is no longer in force, and perhaps that it was retracted because the addressee would not deem it appropriate. In all such cases, the use of the past tense removes the

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speech act from the domain of 'actionable' conversational contributions. The distal form here does not encode epistemic stance, since the verifiability of a propostion is not at issue. Instead, the distal form is used to suggest that the preparatory conditions upon the speech act may no longer be present, and therefore that the speech act itself may not now be felicitous. By signaling that they have no strong expectation of 'positive uptake' by the hearer, speakers lessen the possibility of a loss of face should the hearer fail to provide positive uptake (e.g., should the addressee fail to accept the speaker's invitation) (cf. Brown and Levison 1978).

Fleischman observes (ibid) that some languages offer a spectrum of tense options for polite requests. In some dialects of English, the PaP creates a greater degree of social distance in speech acts than does the past:

(4.11) I had hoped that we might get together next week.

In my dialect, such expressions are appropriate only where the PaP retains its original referential significance. That is, for me, (4.11) can be uttered felicitously only when the addressee has given the speaker reason to believe that his hope cannot be maintained. Insofar as hoping is contingent upon the possibility that the hoped-for state of affairs can come about, we can say that the state of hopefulness vis-à-vis the visit necessarily ceased at some point prior to speech time. Therefore, the 'hoping situation' obtained at a time prior to the past time at which the speaker's hopes were dashed. Fleischman's intuitions in this respect are somewhat different from my own; she observes that many speakers can use sentences like (4.12) without invoking any understood past reference point. She argues, therefore that:

> this use of the PLUPERFECT has nothing to do with temporal anteriority; it functions rather as a pragmatic strategy, originating in the EXPRESSIVE component, for distancing

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> oneself from the propositional content and/or illocutionary force of an utterance and thereby rendering it less assertive. (p. 10)

For speakers for whom the use of the PaP in such sentences as (4.12) is not a 'literal' usage, the PaP participates in a graded opposition with the distal past, providing a further, more extreme method of attenuating the force of a directive speech act. Here, as in the case of the counterfactual usage, the PaP signals the speaker's dissociation from the message rather than past-in-past anteriority. The conditional and speech-act uses are, however, distinct, as the counterfactual use encodes a true past-tense relation, whereas the speech-act use (arguably) does not. These uses then represent distinct (conventionalized) semantic extensions of the PaP.

4.2. The Present Perfect

A central thesis of the present study is that the PrP cannot be given a unitary semantic characterization. Accordingly, the PrP represents an ambiguous aspectual form. We noticed above that the PrP has three readings: resultative, existential and continuative. As we saw, these readings have distinct grammatical, semantic and discourse-pragmatic properties. For this reason, I will argue that these readings are manifested as distinct yet related grammatical constructions. Examination of the properties of these constructions will be postponed until chapter five, where each reading will be considered in turn. In this section, we will examine the semantic commonalities which enable us to regard the three readings as distinct manifestations of the same aspectual category. Investigating this issue will require us to look at analyses in which the PrP is said to denote 'current relevance' (cf. Comrie 1976, Langacker 1991). This discussion will take place in section 4.2.1.

Section 4.2.2 contains further observations on the topic of general PrP meaning. We will focus here upon a semantic property common to all three perfect types: PrP, PaP and FuP: stativity. In particular, we will look at the extent to which the perfect conforms (or fails to conform) to the criteria for statehood described in chapter one. Certain criteria for

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statehood rely upon a particular tense specification. One criterion—co-occurrence with present-time adverbs—is applicable only to the PrP. Another criterion evokes the ability of the denoted situation to overlap with surrounding events in narrative presentation. Since events presented in narrative are past events, this criterion is applicable only to the PaP. Therefore, both PrP and PaP will be discussed in section 4.2.2.

In this section, we will also pay close attention to the manner in which the PrP interacts with the stative adverbs *already* and *still*. The interaction at issue is highly constrained, and we are led to a question similar to that posed in section 2.4.2.1 with respect to the interaction of durational adverbs and the progressive construction: if the perfect represents a state predication, why does it fail to co-occur with adverbial expressions which otherwise welcome state predications? The answer to this question will again require the presumption that aspectual operators, as constructions, are characterized by parochial semantic constraints.

Finally, in section 4.2.3, we will examine examples in which the reference time of the PrP is not equated with speech time. We will investigate the properties of three nonpresent interpretations of the PrP, and explore the following question: do these interpretations qualify as constructions distinct from those which make up the family of PrP constructions? In resolving this issue, we will consider grammatical constraints unique to the various nonpresent interpretations. In particular, we will focus upon the so-called futurate PrP (FPrP), found in circumstantial clauses denoting a future reference time. This use of the PrP is exemplified in (4.12):

(4.12) a. When you have completed section A, raise your hand.

b. If you have not responded by Tuesday, the contract will be nullified.

c. After they have returned a verdict, we're likely to see another riot.

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The PrP-form subordinate clauses are interpreted as having a future rather than present reference time. This reference time is the time to which the situation encoded by the main clause is relativized. For example, in sentence (4.12a), the *when*-clause introduces a reference point which provides an anaphoric antecedent for the event in the main clause (Hinrichs 1986:75): the time at which the hearer must execute the desired behavior is a time following the event of completing section A. In accordance with our formal analysis of the perfect aspect, the time evoked by the main clause directive is a time at which the 'perfect state' *E has occurred* obtains. The event denoted occurs (or should occur) within the tenure of this state of aftermath.

We will assume that the FPrP can be reconciled with that class of usages exemplified in (4.13). The sentences given below, which are taken from McCawley 1981, likewise involve a decoupling of reference time from speech time:

(4.13) a. There's always a *Tribune* reporter on the scene when a disaster has occurred. (= McCawley's (14g))

b. In that story, someone who has just been released from prison steals the crown jewels. (= McCawley's (16a))

These sentences each contain a main-clause present tense and a subordinate-clause PrP. In neither clause, however, is reference time equated with speech time, as required by the Reichenbachian representation of both PrP and present tense. For example, as McCawley notes, sentence (4.14a) is interpreted as a panchronic generalization: both the main clause present-tense and the subordinate-clause PrP are interpreted as incorporating a variable over past, present and future values. The PrP denotes a state of aftermath (e.g., the period following a disaster) in which the main-clause event (or, rather, an instance of that event type) occurs. Sentences like (4.14b), which exemplify a narrative genre which Fleischman (1990) calls *plot retelling*, involve a reference time which is a constant rather than a

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variable. As in (4.14a), however, the reference time is not directly linked to the present in which the utterance event occurs. According to McCawley, the reference time in question is established with respect to a 'story world'. Both the PrP and the main-clause present tense evoke this reference time. As McCawley points out, the PrP may also evoke a (nonvariable) reference time cotemporaneous with that of a present-tense predication which has a 'futurate present' reading:

(4.14) If I ever meet a woman who has read *War and Peace* five times, I'll ask her to marry me. (= McCawley's (17a))

In (4.14), the PrP appears in a relative clause, and is not the main predicator of the protasis. In (4.14), the PrP encodes the anteriority of the book-reading events to the future point established by the futurate-present predicator (*meet*) in the conditional protasis. Can we develop a maximally general analysis of the PrP, in which futurate and other nonpresent uses can be reconciled with those uses in which the reference time of the perfect is speech time?

4.2.1. Current Relevance and Ambiguity

This section will address the following two questions: (a) does the concept of current relevance provide a unifying semantic (or semantico-pragmatic) rubric under which the three readings of the PrP can be grouped, and (b) can adverbial co-occurrence restrictions associated with the PrP on its various readings be attributed to a single constructional source?

4.2.1.1. ***Contextual Modulation.*** What do analysts in mind when they refer to the PrP as an exponent of current relevance? According to Langacker (1991:211), this semantic feature is

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observable from the contrast between present perfect and the simple past. For example, *I have broken my leg* is not the same as *I broke my leg*—the former suggests that I am still incapacitated, whereas the latter may refer to a childhood injury long since recovered from. Use of the perfect conveys that the event is not simply over and done with but continues to have some "current relevance", in this case because its results remain in force.

In a similar vein, Hasegawa (forthcoming) notes that "the perfect indicates the continuing present relevance of a past situation, and...the resultative, which indicates both a state and a preceding event...from which it has resulted, is the clearest manifestation of the perfect".

On first sight, it seems odd that anyone would regard relevance as part of the meaning of a particular aspectual construct. Relevance, after all, is a measure of the utility of a conversation contribution (cf. Berg 1991). Judgements of relevance are made by interlocutors within a particular communicative context. In Sperber and Wilson's terms (1986), a proposition is judged relevant insofar as its contextual effects are large and easily inferred. Among these effects are contextual implications, defined as "that which is nontrivially implied by both the proposition and the context together, but by neither alone" (Berg op. cit.:417). Relevance then represents a relation between a proposition and a context (the latter defined as a set of propositions). For example, the assertion *Mack is incompetent* is relevant when the context contains the addressee's earlier assertion that Mack would be a good candidate for a particular job, since what is implied by the speaker's assertion is that Mack is not in fact a good candidate. Since relevance is defined with respect to a particular discourse contribution and a particular discourse context, in what sense can a verb form be said to signal relevance? We certainly cannot say that use of the perfect form would render an otherwise irrelevant assertion relevant. Furthermore, in what

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way is *current* relevance supposed to be distinct from relevance *simpliciter*? In Sperber and Wilson's model, the relevance feature is necessarily relativized to the current discourse.

The CR framework is coherent only once we unpack the misleadingly simple definitions of PrP meaning given by Comrie, Langacker and others, in order to relate them to a model invoked in recent explorations of nonindexical context-dependent meaning (Fillmore, Kay and O'Connor 1988, Kay 1989, 1990). In these studies, certain constructs are analyzed as *contextual operators*, which Kay (1989) defines as "lexical items or grammatical constructions whose semantic value consists, at least in part, of instructions to find in...the context a certain kind of information structure" (p. 181). Kay (1990) argues for example that the interpretation of sentences containing *even*, e.g.,*They even investigated Bill's MOTHER* requires reference to (a) a contextually available proposition (context proposition), (b) a propositional function representing semantic material shared by presupposed and asserted propositions, and (c) a *scalar model* in which the asserted proposition unilaterally entails the presupposed proposition.

Thus, our example sentence may be interpreted as entailing a previously asserted proposition, e.g., *They investigated Bill's law-school friends*. The propositional function representing semantic material shared by asserted and background propositions would then be: *They investigated X* (cf. Lambrecht forthcoming on the representation of narrow-focus accentuation). The scale adduced by the interpreter of this sentence is one in which, let us say, persons are ranked with respect to the degree of insight each such person can offer about Bill's political leanings; a mother is presumably lower on this scale than are law-school cronies. Therefore, the asserted proposition entails the context proposition within the scalar model at issue. Sentences containing *even* are inherently relational: the interpreter of such sentences must recover the context proposition and discern a method of relating context and 'text' propostions within a scalar model.

Put differently, *even* introduces a pragmatic variable over context propositions and pragmatic scales which can be used to relate the assserted and presupposed propositions. In

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the same way, we might say that 'current relevance' simply names a pragmatic variable in the semantic structure of the PrP: this variable ranges over conceivable means of relating the past event denoted by the participial VP to the present state of affairs. This is probably the type of analysis that McCoard has in mind when he argues (1978:65): "current relevance is not a fixed semantic content born by a particular verb form, but is only the name of diverse implications that may attach to sentences".

In accordance with the notion that the 'current relevance' label names a variable over relations between denoted event and speech time, analysts employing a CR-based approach tend to distinguish a number of varieties of current relevance. Langacker, for example, identifies two other subtypes in addition to the resultant-state implication. The second subtype is that which we referred to as the 'present possibility' constraint: Langacker notes that sentences like *Have you seen the pandas at the zoo?* are inappropriate if the pandas have already been sent back to China, and visiting them at the zoo is therefore now impossible. The third subvariety of CR is linked with the continuative perfect. With respect to examples like *She has believed in reincarnation for several years*, Langacker remarks (ibid): "with an imperfective content verb (and suitable adverbial), the perfect intimates that the designated situation continues through the reference time, while the nonperfect form portrays it as a finished episode".

Among those theorists adopting some version of the CR-based approach, the number of types of current relevance recognized have varied widely. While Langacker distinguishes only three, he cautions that he has not attempted to list all varieties of current relevance, in part because they are "difficult to distinguish or list exhaustively". Since McCawley (1971), a number of analysts, including Anderson (1982) and Brinton (1988), have noted a fourth variety of current relevance, equated with what McCawley called the 'hot-news perfect':

(4.15) Byron White has (just) announced his retirement!

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The hot-news perfect (also known as the perfect of recent past) is said to denote a recent event, or at least one that the speaker believes to be new to the addressee. Presumably, sentences like (4.15) fulfill the current-relevance requirement because they report momentous events; such reports enable the interpreter to reason about what might happen in the wake of the denoted event. It is difficult, however, to clearly distinguish the hot-news use from the resultative use. Presumably, assertions like (4.15) are newsworthy only insofar as the denoted event has present consequences, e.g., that there is now a vacant seat to be filled for the next term. Indeed, the speaker's belief that the event has salient present consequences is what induces the speaker to report the event. It appears, therefore, that the hot-news perfect simply represents a common use of resultative perfect: one in which the causal event denoted by the participial complement is a recent one. I will argue here, in fact, that while recency of the event with respect to reporting time is neither a necessary nor sufficient condition upon use of the resultative perfect, we should expect to find a reasonably strong association between a resultant-state implication and recency of the denoted event.

A full understanding of this association requires that we distinguish between those events which are known to have occurred within the *text-external world* and those which have been established within the *text-internal world*. These labels are used by Lambrecht (forthcoming) to distinguish two spheres of knowledge accessed by participants in a discourse. The former sphere is equated with the ontology of the outside world (as understood by a given conceptualizer)—the entities which exist there and the events which have occurred, etc. The latter sphere is that 'catalog' which contains all entities and states of affairs that have come under consideration within the discourse.

A situation may count as new in the text-internal world, but not in the text-external world: a new situation in the former sphere is one which has not previously been introduced. For example, the sentence *I was born in Virginia* does not denote a recent

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event, but may represent a new (i.e., nonpresupposed) event within a particular discourse. However, a situation which is new in the text-external world—that is, a situation which has only recently entered the speaker's consciousness—is very likely to represent a new situation with respect to the text-internal world. The speaker will presumably infer that this situation is unknown to the addressee, and therefore present it as new information (e.g., by means of sentence-focus accentuation). Constraints on use of the resultative perfect relate to newness vis-à-vis the text-internal world.

In chapter five, we will see that the resultative perfect is subject to the following discourse-pragmatic restriction: it cannot be used to provide further information about a pragmatically presupposed event proposition. (This constraint was briefly discussed above with respect to information questions like (4.3a).) A pragmatically presupposed event proposition pertains to an event which, at a given point within the discourse, belongs to the repertoire of known entities and situations. Given the fairly strong correlation between newness in the text-external world and newness in the text-internal world, we can readily understand why a salient use of the resultative perfect is that of denoting recent events. The resultative perfect necessarily denotes a textually new event. Textually new events often represent recent events. Typically, an event which has not merited previous discussion is one which the speaker has reason to presume is not yet known to people in general, including the addressee. It therefore stands to reason that, as Fenn (1987) has found, a preponderance of resultative-PrP assertions represent news-reporting sentences. (In chapter five, we will examine the role of the resultative perfect in lead sentences of news reports.)

A further motivation for the strong association between recency of an event and a resultant-state implication involves the potential significance of the present result in the negotiation of immediate goals. The resultant state implied by the resultative PrP is typically one which the speaker presents as requiring a certain course of action. Of course, it is difficult to apply this analysis to the ineffable present consequences of momentous events, evoked in news reports like *The president has been shot.* In such cases, the interlocutors

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need not believe that this event (or the knowledge of it) will directly influence *their* future actions. They may simply believe that the consequences of this event are now to be felt. In more mundane situations, however, the presentation of a present result often represents a demand for action (including verbal action) from one or more conversational participants. Note, for example, the following sentence (uttered by the author while picnicking): *A spider's built a little web on my sunglasses.* Here, the presence of the spider web is evoked as a potential catalyst for future action (e.g., removal of the web). Notice, however, that this sentence is not an appropriate response to a questioner asking why the glasses are lying several yards from the speaker (at the point where they landed after being thrown by the speaker). In this case, the results of the web-building event are still in force at speech time, but the presence of the web is no longer a salient potential catalyst for action. In this context, only the preterite-form assertion is felicitous.

Certain resultant states are ephemeral, in that they generally remain in force for only a short period following event time. Among these resultant states are those which, in Slobin's words (1990), "determine what happens next". That is, the resultant state inferred by the hearer on the basis of the aforementioned PrP-form assertion is not only the current presence of the spider web, but also the current need for someone to do something about it. Once the speaker (or the interlocutors) have determined and executed a course of action, they have resolved the exigent situation. Therefore, as far as the interlocutors are concerned, the resultant state originally conveyed by the PrP-form assertion is no longer in force. The felicitous use of a form which implicates the presence of a contingent result then hinges on the recency of the event denoted. This again helps to explain the frequent identification of the resultative perfect with what Comrie (1976) and others cali a 'perfect of recent past'.

While we might succeed in reducing to three the number of understandings associated with the PrP, the following question remains: are these understandings uses, as Langacker and others would have it, or distinct interpretations on the semantic level? Uses, according

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to Anderson (1982:230), "are what speakers intend and hearers infer in particular contexts". As noted, the current relevance feature should be regarded as a pragmatic variable over uses—an instruction to the interpreter to find an appropriate means of relating the past event denoted to the present situation. [5] Therefore, the PrP exhibits pragmatic ambiguity, i.e., it has a variety of contextually computed uses (cf. Horn 1989) Uses as such are not discrete; several uses of a particular form may be evoked in a given context (cf. Li, Thompson and Thompson 1982 and Michaelis 1992). For example, it is difficult to determine, *a priori*, whether the first clause of (4.16) represents a resultative perfect, an existential perfect, or both:

(4.16) I've been there a hundred times, so I can show you all around.

This sentence contains an existential assertion—there were several events in which the speaker visited a certain location—as well as a resultant-state implication: the speaker now has sufficient knowledge to act as tour guide. However, while the potential for coalescence of understandings is certainly a hallmark of pragmatic ambiguity, we need not view such coalescence as evidence that the construct in question is not semantically ambiguous. For example, Norvig (1988) argues that there are contexts of semantic neutralization, in which otherwise distinct readings of a semantically ambiguous lexical item represent mutually compatible interpretations. In such cases, the interpreter is not induced to resolve the observed ambiguity in favor of one or the other reading. Norvig observes that this interpretive strategy is commonly invoked in advertising slogans. He describes, for example, an advertisement for Michelin tires containing the sentence: *You've got a lot*

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[5] An analysis in which the PrP contains a pragmatic variable does not necessarily require that the variable range over forms of current relevance. Klein (1992), although explicitly rejecting a CR-based analysis, advocates a view of the PrP in which both the recency and frequency of the R-situation are 'left open', to be filled in by interpreter inference. Chapter five will provide a critical evaluation of this analysis.

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riding on your tires. Here, Norvig argues, a metaphorical intepretation of the expression (much depends upon the tires that you have) coexists with a quasi-literal interpretation (the car and persons in the car, whom you view as being worth a lot, will exert weight on the tires). Similar effects are observable in language that is not rhetorically specialized. For example, in my paper on adverbial *still* (Michaelis forthcoming b), I argue that two interpretations of the adverb *still* coexist in sentences like the following:

(4.17) We tried to explain it to him, but he still doesn't understand.

In (4.17), *still* appears to have two mutually compatible interpretations. Firstly, still denotes the continuance of a situation (lack of comprehension) through to the present time. Secondly, *still* indicates that a situation obtains despite circumstances which would otherwise militate against it. Note that these interpretations are distinct in other contexts:

(4.18) a. She was still home, so I went in.

b. We performed CPR, but he still died.

In (4.18a), *still* merely asserts continuance of a state of affairs, with no implication of persistence of that state despite adversity. In (4.18b), the denoted situation is an event predication, and therefore cannot be regarded as persisting from an earlier time. These two interpretations of adverbial *still*—temporal and adversative—are mutually compatible in (4.17): speakers would be hard pressed to resolve this 'ambiguity' in favor of one or the other sense. We could analyze sentence (4.16) in a similar fashion: two otherwise distinct interpretations of the PrP are simultaneously evoked.

Therefore, we need not regard examples like (4.16) as evidence for a vagueness analysis of the PrP. Further discussion of the distinction between vagueness and ambiguity vis-à-vis the PrP will take place in chapter five. In that chapter, we will examine evidence

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in favor of an analysis in which the PrP is regarded as ambiguous with respect to the three interpretations cited above. The evidence presented will fall into three major categories: (a) formal differentiation of these interpretations in languages other than English, (b) the potential for 'deletion' under semantic identity and (c) the existence of distinct grammatical patterns (e.g., adverbial co-occurrence) associated with these interpretations.

This last form of evidence, as mentioned earlier, must be examined with particular care; the existence of grammatical features characteristic of a given understanding do not necessarily obviate a vagueness analysis. Distinct understandings of a vague construction (syntactic or lexical expression) may be said to arise from the modulating effects of context. *Context* here can be construed in a broad sense as world knowledge brought to bear by the interpreter. For example, my hearer can inter that the cousin to which I refer is male rather than female, since I mentioned that this cousin recently had prostate surgery. In this case, the word *cousin*, which is in general vague with respect to the gender of the referent, is interpreted as having a male referent. Context may also be construed more narrowly, as the lexico-grammatical matrix in which the particular formal element is found. Thus, for example, we find a number of cases in which temporal-aspectual or frame-semantic specifications of the main lexical verb evoke a particular understanding of a neighboring vague construct. König and Traugott (1982) argue that two understandings of the aspectual adverb *yet* can be viewed as products of an interaction between a vague semantics of *yet* ('imminent future terminus of situation') and the temporal-aspectual class of the verb (present state versus future event). Consider the following examples:

(4.19) a. He is not yet feeling better.

b. We'll make a pitcher of you yet.

In (4.19a), *yet* indicates that a negative state (that of not feeling better) is subject to future cessation, i.e., the sentence as a whole indicates that the denoted state of affairs is

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not expected to last indefinitely. In (4.19b), *yet* indicates that a change (from a lack of proficiency in pitching to proficiency)—which represents the endpoint of a process (coaching the addressee)—will occur at some point. In other words, *yet* indicates a future boundary; the temporal-aspectual character of the verb determines whether this boundary is the endpoint of a (negative) state or the goal state of an accomplishment.

If we accept this analysis, then we cannot say that the distinct patterns of verbal co-occurrence shown in (4.19) provide evidence that *yet* is ambiguous with respect to the 'stative' and 'futurate' readings. Instead, a vague semantic structure appears to *accommodate* to the verbal context in which it is embedded. In the next chapter, we will discuss an accommodation-based vagueness analysis which has been applied to the PrP. In particular, we will examine proposals by Bauer (1970) and Brinton (1988) to derive the three PrP readings in question from the interaction of a vague perfect meaning with lexical-verb Aktionsart and adverbial specification—the latter accommodating to the meaning of the former.

The accommodation-based analysis is only one type of vagueness account potentially applicable to the PrP. Another sort of analysis, which we explored briefly above with respect to the theory of contextual operators, simply assumes use ambiguity and some sort of algorithm by which the interpreter computes the relevant use in a given context. As we noted, one can regard the CR-based approach as an account of this sort.

One must then ask whether the CR approach can account for the fact that distinct understandings of the PrP have distinct grammatical reflexes. We noticed, for example, that the resultative PrP rejects all temporal specification of event time, whereas the existential PrP does not. Under ordinary circumstances, we do not expect uses of a construct to exhibit idiomatic grammatical constraints like adverbial co-occurrence restrictions. Idiomatic grammatical constraints attach to conventionalized pairings of form and meaning (Zwicky and Sadock 1975). Uses, as products of contexutal computation, are not conventionalized. Indeed, a cogent counterargument which has been leveled against Horn's

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analysis of metalinguistic versus descriptive negation exploits the fact that this distinction, which Horn views as a use distinction, is grammatically ramified. Horn himself notes that the negative marker, operating in its metalinguistic capacity, disallows negative polarity items: *He doesn't like anyone* versus **He doesn't LIKE anyone, he LOVES anyone.* A similar counterargument can be used to undermine the validity of the CR-based approach: the PrP cannot be seen as vague with respect to the resultative and existential readings, because the resultative reading carries an idiomatic prohibition against event-time specification.

In arguing that the PrP is ambiguous, we will in essence be forced to navigate between Scylla and Charybdis. On the one hand, we must show that the apparent sensitivity of the grammar to the meaning distinctions in question—as manifested, e.g., in the presence of co-occurrence restrictions unique to one reading or another—obviates a vagueness account like the CR-based approach. Since a form-meaning correspondence is by definition conventional, we do not expect to find instances in which co-occurrence restrictions attach to contextually computed understandings. On the other hand, we have to avoid a pitfall common in ambiguity arguments based on combinatory potential: we must demonstrate that these distinct grammatical elements, or rather, the semantic features which they import, do not in fact interact with a vague perfect semantics to *produce* the meaning distinctions observed.

4.2.1.2. ***The sources of adverbial co-occurrence restrictions.*** While the CR-based analysis may not be tenable, it does capture a semantic commonality which unites the PrP readings to be considered here: all of the readings subsume an implication concerning a state of affairs which obtains—or could obtain—at the present time. In McCoard's words, "the perfect associates a prior event with the present time" (1978:153). In the present analysis, these implications will be represented as conventional implicata. One might choose to represent the semantic feature common to these readings by means of

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a general PrP construction, to which the individual 'subconstructions' are related by means of instance links.

Such a construction would not, however, represent a locus of any grammatical generalizations. Unlike the general perfect construction given in figure 4.1, the general PrP construction would not represent a source from which any temporal-adverb co-occurrence constraints are inherited. Any such constraints will represent parochial constraints attached to the individual PrP constructions. We observed, for example, that neither the existential nor the resultative PrP accepts definite punctual time adverbs like *in 1970*. Consequently, there is no reading under which a sentence like *Dad has retired in 1984* is acceptable. However, as we will see, each of the two PrP constructions rejects such adverbs on a different basis. [6] In the case of the existential PrP, the presence of a definite past-time adverb conflicts with a semantic restriction discussed earlier, under the heading of 'present possibility'. The R-situation must represent an event type that could recur at present. The event of Dad's retiring in 1984—unlike, e.g., the event consisting of his waking up at six in the morning—cannot be replicated.

In the case of the resultative PrP, the presence of a definite past-time adverb conflicts with a restriction which, it was argued, represents a parochial co-occurrence constraint associated with the resultative PrP construction: no temporal specification of event time is permitted. The definite class (e.g., *in 1970*) is only one class ruled out by this restriction; another proscribed class contains adverbial expressions having the potential for a 'cyclic' or

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[6] The continuative PrP is not germane to this discussion, because it denotes a state phase culminating at speech time (cf. section 2.4.2.1). Since this state phase extends to the present, the continuative PrP is not compatible with adverbs which, like *in the Victorian era*, restrict the R-situation to the past. The continuative PrP is compatible only with past-time adverbs marking the inception of the state phase, e.g., *since last week*, and time-span adverbs denoting the duration of the state phase, e.g., *for two hours*.

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type interpretation, in which the expression names not a particular time but a recurrent time: *at dawn*, *in June*, etc. As we observed earlier, adverbs of the latter class are accepted by the PrP when the PrP an existential intepretation: *Harry has eaten breakfast at dawn* (*before*). This sentence would be paraphrased in the following fashion: 'There were one or more dawn breakfast-eating events involving Harry prior to the present time'.

Therefore, all time-adverb co-occurrence restrictions which are not inherited from the general perfect construction (figure 3.1) arise from constraints specific to the individual PrP constructions. As a prelude to the more elaborate semantic description of these constructions to take place in chapter five, these adverbial co-occurrence restrictions are given in figure 4.2 (where GPC = general perfect construction):

	Deictic punctual past time	Definite punctual past time	Present (stative) *now*	*since*	Durational adverb (*for*-phrase)
EPrP	*no* GPC	*no* replication constraint	*yes* GPC	*yes* time range	*no* non-subinterval
RPrP	*no* GPC	*no* time-spec. constraint	*yes* GPC	*yes* in some contexts	*no* non-subinterval
CPrP	NA	NA	*yes* GPC	*yes* state predi-cation	*yes* subinterval

Figure 4.2: *Adverbial Co-Occurrence*

In this figure, five classes of temporal expressions are evaluated with respect to two parameters: (a) whether or not they co-occur with a given perfect type, and (b) the source of the co-occurrence potential or prohibition (e.g., whether it represents a feature unique to the particular PrP construction or whether it is inherited from the GPC construction). The first class of adverbs, deictic past-time adverbs (e.g., *yesterday*), fail to co-occur with any

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PrP type. This prohibition can be ascribed to the general perfect construction, from which it is inherited. This prohibition is, as mentioned, inapplicable to the continuative PrP (CPrP): the R-situation represents a state which obtains through to the present, and therefore cannot be entirely restricted to the past (although a past point of inception may be coded).

One possible objection to this mode of analysis should be dealt with here. In chapter one, we mentioned that, owing to the properties of cumulativity and distributivity, a state predication can be viewed as obtaining throughout a period which includes that period for which the state is asserted to obtain. Therefore, the assertion *Harry was in London yesterday* can be used to describe a situation in which Harry was in fact in London for the whole week. Why then, in the case of the continuative PrP, can one not pick out some proper subinterval of the interval for which a stative R-situation obtains? That is, why are are such sentences as the following proscribed: **Harry has been in London yesterday*?

In answering this question, we must recall that state phases qualify as perfective situations (cf. section 2.4.2.1). As perfective situations, state phases have a time of culmination (the upper boundary of the phase). When accompanying an event predication, a punctual adverb like *yesterday* must include this time of culmination. In the case of the continuative PrP, however, this time of culmination is identified with the present and not with the past. Likewise, in the case of the continuative PaP (e.g., *Harry had been residing in London*), we find that sentences like *Harry had been residing in London in 1954* cannot be used to indicate that Harry had been residing in London for a period including 1954. In this sentence, 1954 must represent the time of culmination of the state phase, and not a time included within the state's tenure. Therefore, punctual past-time adverbs, whether deictic or nondeictic, cannot co-occur with the continuative perfect.

The third column shows that the present-time adverb *now* can co-occur with all PrP types. This co-occurrence potential can be attributed to a semantic feature of the general perfect construction: the D-situation represents a state. In chapter three, this property was represented in our logical notation by the predicate *have-occurred (e)*. As required, this

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predicate is represented as a property of a period of time. The predicate is a subinterval predicate: it can apply to any subpart of the (temporal) entity of which it is predicated, including the moment of coding, denoted by *now*. The sentences in (4.20) demonstrate that the adverb *now* is compatible with each of the three PrP types:

(4.20) a. Now he's stood me up twice.

b. We have now completed our test of the emergency broadcast system.

c. Her phone's now been busy for an hour.

In each case, the meaning of *now* is somewhat different. In (4.20a), an existential perfect, *now* signals that the present count of past failures to show up indicates that there are two such events. In (4.20b), *now* indicates the present existence of a resultant state (that of a completed test). In (4.20c), *now* indicates the point at which a state phase has culminated or ceased.

Certain semantic idiosyncrasies involving the interaction of*now* with the various PrP types can be observed in these examples. First, continuative PrPs appear to require that the state phase representing the R-situation bear durational specification (e.g., *for two hours*). Sentences like *I have now had the mumps* have an existential rather than continuative intepretation. Second, *now* in such contexts often appears to imply a contrast with the state of affairs obtaining at a future time. Therefore, *now* requires *upward-compatible* durational specification. Note the following example:

(4.21) ??Madge has now been talking on the phone since noon.

Most speakers will report, upon pondering this example for a moment, that it is peculiar, in the following respect: that state of Madge's having talked on the phone since

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noon cannot change—no matter how much longer she talks, the inception of the talking phase will always be noon. Because of the presence of *now*, however, the sentence implies (or, perhaps, implicates) that the state of affairs is one susceptible to change. In other words, the potential for change relative to a bounded state entails upward compatibility of the 'measuring metric' within a numerical scale. While temporal *extent* measure (*for three hours*) is upward compatible, temporal measurement from an interval's lower boundary is not. As noted, the peculiarity of (4.21) can be attributed to a (quantity-based) implicature: it is uninformative to select a particular point (the present) at which a given state obtains, if one is not constrasting that state with another state obtaining at some other time (future or past). Thus, the constraint evidenced in (4.21) may be a calculable rather than conventionalized restriction upon the co-occurrence of *since* and *now*.

A further interpretive constraint related to the interaction of *now* and the PrP is the following: when *now* appears with the resultative PrP, the resultant state in question must typically represent one that has been 'in the offing' for some period prior to speech time. Thus, for example, a radio announcer recently remarked that *Those storm clouds have now moved on*, apparently exploiting the hearers' awareness both of the clouds and the imminence of their departure. As we will see in chapter five, the resultant state evoked by a resultative PrP is not necessarily reducible to that state which represents the endstate of the telic content verb (if that verb is in fact telic). In (4.21b), for example, what is at issue is not merely the endstate of the test's completion, but all that completion of the test is understood to entail, e.g., a prepared listening audience. Not all resultative PrPs are compatible with *now*; sentences like (4.22) are peculiar:

(4.22) I've now broken your stereo.

In order to be rendered plausible, this sentence must be interpreted with respect to a soemewhat unusual background assumption: that there is a procedure designed to bring

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about stereo breakage. However, when *now* appears in sentence-initial position, this same sentence presupposes a pragmatic scale, on which the situation denoted represents an 'extreme case'. The sentence *Now I've broken your STEREO* might be uttered by a befuddled repairman whose attempts to fix a number of household objects have each failed. The breakage of the stereo represents the crowning disaster of this series of mishaps.

In the fourth and fifth columns of figure 4.2, we find two types of temporal measure expressions. The subordinating conjunction *since*, shown in the fourth column, takes as its argument an expression denoting a lower boundary for the time span in question. This lower boundary may be encoded by a noun denoting a past time (as in *since noon*) or it may be encoded by a preterite clause denoting a past event or state of affairs (as in *since the cat died*). The *since*-adverbial construction requires that the upper boundary of the time span denoted be equated with a reference time distinct from event time; event time includes the lower bound of the time span in question. Consequently, *since*-adverbials can co-occur only with the PaP and PrP constructions. Unlike durational expressions (i.e., *for*-phrases), they cannot co-occur with the preterite.

Durational adverbs, as I argued in chapters one and two, assign a temporal extent to the state-phase expressions within their scope; this function was represented in section 1.3.3.3, footnote 18 by means of the operator *quantity* (Herweg 1991a, 199b). We also determined there that state phases represent a particular event type, which Herweg labels the *pofective event type*. The pofective event is represented as an event radical to which a duration may be assigned, i.e., a tenseless sentence like *Harry be- working on the wiring for several hours*. The event culminates within the evoked reference time: the time of culmination is past in the case of the preterite, present in the case of the PrP.

By contrast, temporal *since*-expressions merely denote the lower bound of a time span; the reference time of the predication, whether past or present, must contribute the time specification representing the upper bound of this span. For example, in the sentence *He had been depressed since receiving the news*, the lower boundary of the evoked interval is

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the time of receipt of the news. This time is evoked by the adverbial expression; it is construed as a time which is properly included within the past event time evoked by the PaP. The upper boundary is the subsequent (past) reference time evoked by the PaP. In order to be compatible with a *since*-adverbial expression, the predication must evoke a past time distinct from the reference time. The distinct time is event time, the interval at or within which the time of inception denoted by the *since*-adverbial is located. In the case of the preterite, event and reference times are identical: reference time is the time in which the event culminates.

Therefore, when we consider the time period relevant for the disposition of the denoted situation over time, the preterite can be said to evoke only a single (past) time, located prior to the time of speech. The perfect, by contrast, evokes a form of past-time reference in which two times figure prominently: event and reference times. The situation denoted by the perfect may be a state phase which obtains throughout an event time whose upper boundary is contiguous with R. Alternatively, the situation denoted may consist of an event and its outcome, the latter being understood to be 'in force' at R. Finally, the situation encoded by the perfect may be the presence of one or more past events of a given type, and their associated times of occurrence, within a time span whose upper boundary is equated with reference time. In all cases, the 'scene' encoded by the perfect encompasses both an event time and a subsequent reference time. Therefore, the perfect necessarily invokes a past interval rather than a past 'point', although this interval may or may not be relevant for defining a particular perfect reading. We noticed in section 4.2.1 that, Heny and Richard's account notwithstanding, the resultative PrP is not plausibly regarded as evoking an event proposition which is "true within an interval": the resultative PrP evokes a simple anteriority relation akin to that associated with the past tense. We will find, however, that it is useful, in the case of the existential and continuative perfects, to invoke an opposition between occurrence within an interval (as in, e.g., *Marvin has visited twice this summer*) and presence throughout an interval (as in, e.g., *It's been hot this summer*).

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The feasibility of an interval-based semantics for the perfect is shown by the fact that, in the case of the PaP, either boundary of the relevant past interval is available for past-time adverbial reference, as shown by the ambiguity of sentences like *Moe had left at dawn* (cf. section 3.3). By contrast, the corresponding past-tense sentence (*Moe left at dawn*) is unambiguous with respect to the time referred to by the adverbial expression. Let us say that the perfect differs from the preterite in that the former invokes two temporal 'landmarks' within a history (E and R), while the latter invokes only one (E,R).

In the case of those adverbial expressions of extent which 'measure' the time span (i.e., durative adverbs like *for two hours*), only the upper boundary of the time span denoted must be 'anchored' by the tense operator. In sentences like *Manny raked leaves for two hours*, the upper boundary is the time of culmination included within the (past) reference time of the predication; the lower boundary is straightforwardly computed: it is simply a time two hours prior to the reference time. In the case of *since*-adverbial expressions of extent, however, only the lower boundary of the relevant interval is specified; the upper boundary cannot be computed from that specification. Since the perfect construction evokes two distinct temporal poles, it provides 'anchors' for the upper and lower temporal boundaries imposed by the semantics of the *since*-adverbial construction. In particular, the lower boundary specified by the adverbial construction is identified with or included within E; the implicit upper boundary is identified with R, whether R represents a past point (as in the case of the PaP) or a present point (as in the case of the PrP). Chapter five provides a unification-based account of the interaction of the perfect construction and the *since*-adverbial construction.

The *since*-adverbial construction denotes two types of time span. Firstly, it can denote a range of times *within which* one or more events of a given type are said to have transpired:*I have visited him several times since we had that argument.* In this capacity, the *since* expression co-occurs with the existential PrP, and has a meaning similar to that of

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adverbs like *lately, recently* [7] and *before*. These expressions also denote a set of times over which the existential quantifier ranges, the upper boundary being fixed by the reference time. [8] However, unlike the *since*-adverbial construction, they do not specify the lower boundary of that range. Secondly, the *since*-expression can denote a range of times *throughout which* a given state holds: *I've resented him ever since that incident.* In this capacity, the *since* adverbial expression co-occurs with the continuative PrP. In both the

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[7] *Recently* is ambiguous between a 'frame adverbial' reading and a 'present-inclusive time span' reading. These readings are exemplified, respectively, in (a-b):

(a) My great uncle (?has) recently died.

(b) It's been hot (on several occasions) recently.

In (a), *recently* places temporal boundaries on a past event, and co-occurs with the preterite. As indicated, *recently* does not appear to co-occur with the resultative PrP—a fact which we can ascribe to the time specification constraint. In (b), *recently* encodes a time span which includes the present. When coupled with the existential PrP, *recently* signals that some times within this time span are event times. When coupled with the continuative PrP, *recently* signals that all times within this time span are times are which a state holds. It is on this time-span reading that *recently* has a meaning similar to that of *lately* and the *since*-adverbial construction. Lately, however, requires that the event proposition denote a habitual event. Consider the following contrast:

(c) ??Lately, he's come by twice.

(d) Lately, he's come by everyday.

[8] Like the *since*-adverbial construction, *lately* requires that the upper boundary be fixed by a reference time equated with speech time. Hence, preterite-form sentences like (a) are anomalous:

(a) *He was acting odd lately.

Lately differs from other range-denoting expressions in that it can occur within the scope of the present tense:

(b) $\left\{ \begin{matrix} \text{??Recently} \\ \text{Lately} \end{matrix} \right\}$, he is very difficult to deal with.

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existential and universal cases, we will presume that the *since*-adverbial expression scopes the state or event predication represented by the participial complement.

As indicated by figure 4.2, *since*-adverbial expressions co-occur with the resultative PrP: *Something terrible has happened since we last spoke.* In this situation, the *since*-adverbial again indicates a set of times, but the existential quantifier over events and times binds only one event-time pairing within this range. In this case, the *since*-adverbial resembles what Partee (1984) refers to as a frame adverbial. In sentences like *Harry fainted last week*, the adverbial expression *last week* denotes a general temporal 'search domain' within which the reference time is to be situated. This situation contrasts with that in which the temporal adverb fully describes the reference time, e.g., *Harry fainted a moment ago.*

As indicated in the table, *since*-adverbials are welcomed by the resultative PrP only under certain conditions. Sentences like the following are peculiar:

(4.23) ?My Uncle has died since 1992.

Complexities regarding sentences like (4.23) emerge when we consider examples in which the *since*-expression is anaphorically interpreted, owing to the presence of a discourse antecedent. In such situations, a resultative interpretation is apparently available. Consider the following exchange:

(4.24) A: Harry promised us in March that he would move here.
B: Yes, well Harry has apparently fallen in LOVE since March.

In (4.24), the deaccented *since*-adverbial expression falls outside the VP focus domain. This constituent's lack of accent reflects its activation status; the interval *March*, invoked in A's utterance, is the discourse antecedent of the *since*-phrase. In B's response, the PrP-form sentence appears to have a resultative interpretation: Harry is in love now as a result

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of having fallen in love at some point since March; he is therefore is unlikely to leave home. A similar example is given in (4.25):

(4.25) Since the killing, abortion-rights activists have stepped up security.
('Headline News', CNN 3/14/93)

This sentence was uttered in the context of a news report about the killing of an abortion provider, and the effect of that event upon the pro-choice camp. The *since*-adverbial in (4.25), whose sentence-initial position and definite nominal complement suggest that it has topic status, is used by the speaker to exploit the hearer's awareness of the killing, and the past time at which it occurred, in order to establish a temporal reference point. This sentence appears to be a resultative PrP: it asserts that the activists are now more vigilant as a result of a past decision to increase security. This decision was made at some point within a present-contiguous time span. The lower boundary of this time span is the time of a pragmatically presupposed event—one whose occurrence is known to speaker and addressee at the time of the utterance.

The foregoing examples suggest that the co-occurrence of a *since*-adverbial expression with the resultative PrP is limited to a particular discourse-pragmatic context—that in which the temporal reference point evoked has been previously mentioned in the discourse. It is difficult to adduce a semantic motivation for this restriction. Although the preposed position of the adverbial expression in (4.26) might tempt us to advance a scope-based explanation, the contrast between (4.24) and (4.25), in which only the presence or lack of prosodic prominence signals the topic status of the adverbial constituent, suggests that scope phenomena are not at issue. The constraint in question appears to be an idiosyncratic feature of the resultative PrP construction.

To complete our discussion of the table in figure 4.2, let us examine the last group of adverbs: *for*-phrases of duration. As I argued earlier, these expressions provide an explicit

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means of individuating a state by the assigning duration to the state. All times within the interval denoted are times at which the state obtains. Accordingly, truth conditions given for combinations of a tenseless state proposition and a durational adverb (e.g., *for twenty minutes*) evoke universal quantification: all times within the twenty-minute span are times at which the tenseless state-proposition holds. As shown in the fifth column of figure 4.2, the continuative PrP welcomes durational adverbs. Durational adverbs differ from *since*-adverbial expressions in that the former cannot encode a set of times bound by an existential quantifier. Sentences like *Harry has visited us for the past several years* cannot be interpreted as evoking a range of times within which one or two visits by Harry took place. In order to be acceptable, this sentence would have to refer to habitual or periodic visits by Harry within the time span mentioned. Habituality is the conceptual realm which conflates *within* and *throughout* relations: a series of events occuring within a period resembles a state, in that the situation involves stasis over time (cf. Langacker 1987, 1991).

Despite their distinct meanings, we will assign identical scopal properties to *since*- and *for*-adverbials. That is, we will presume that both adverbial expressions (a) scope the state proposition denoted by the participial VP and (b) fall within the scope of the perfect operator. Syntactically, both temporal-extent expressions are represented as containing a valence requirement calling for a tenseless proposition, which is realized by the participial VP. In advocating this analysis, I differ from Mittwoch (1988), who claims that the continuative-perfect operator (her 'universal *have*') lies within the scope of both *since*- and *for*-phrases. In chapter five we will examine considerations which suggest that Mittwoch's analysis is untenable.

The foregoing discussion has demonstrated that adverbial co-occurrence restrictions upon the PrP constructions arise from two sources: the general perfect construction (given in figure 4.2) and the interpretive constraints imposed by the PrP constructions themselves. In the latter case, these restrictions are accounted for by means of construction-specific semantic properties. This discussion has then shown that no adverbial co-occurrence

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constraints are inherited from a general PrP construction. Since this is the case, we have no particular need to posit such a construction. We may, however, wish to find a method of representing semantic commonalities among these constructions—commonalities that are captured by CR-based accounts. The three PrP constructions have very similar communicative functions: they assert the occurrence of a past event (whether this event is an intrinsically perfective situation or a bounded state), and conventionally implicate that this event is related to the present. The distinct implicata, each of which is associated with a distinct PrP type, are: (a) the event is a state phase which began at some point in the past and continues up to the present (continuative PrP), (b) the event has a presently accessible result (resultative PrP), and (c) the event can be repeated (existential PrP). It is difficult to find an appropriate label for this family of implicata, especially since the 'current relevance' rubric evokes a framework in which the PrP represents a vague rather than ambiguous construct.

Let us tentatively propose that the three PrP constructions are related via instance links to a general PrP construction. This construction will be identical to the general perfect construction represented in figure 4.1, except: (a) the variable REL will be replaced by the operator PRES and (b) the *sem* value of the construction will contain a variable over implicata concerning the present. In section 4.2.3, I will argue that this construction can be viewed as the source from which nondeictic uses of the PrP inherit their general interpretive features.

4.2.2. Stativity

In this section, we will investigate an aspectual property attributed to the general perfect construction: stativity. I claimed above that the perfect construction denotes a state—a state of aftermath following the time of the perfective R-situation. Following Dinsmore (1992), we represented this state of aftermath as the predicate *Have-occurred (e)*. In our formal representation of the event-state distinction, this predicate is a property of an interval. This interval includes the time of reporting in the case of the PrP, although, as we will notice in

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the next section, there are conditions under which the reference time of the PrP can be 'decoupled' from the present and shifted to the past or future. Examples of the decoupling phenomenon were given as (4.13-4.15) above. In section 4.2.2.1, we will examine the manner in which the perfect conforms to the model of states developed in chapter one. In particular, we will describe the PaP with respect to a characteristic inference licensed by stative predications in narratives: we will look at those situations in which the PaP overlaps, or fails to overlap, with surrounding events in a given text.

In section 4.2.2.2, we will investigate the interaction of the PrP with two aspectual adverbs, *already* and *still*. [9] These adverbs, as I have argued elsewhere (1992, forthcoming b), scope state propositions. In the case of *still*, as König and Traugott (1982) point out, one must distinguish assertive and presupposed components of meaning. A sentence like *Harry is still upset* is used to assert the presence of a state (*Harry be- upset*) at the reference time (the present), while presupposing that Harry was upset for some period prior to speech time. Therefore, the assertion that a given state of affairs continues across time invokes the presupposition that the denoted state of affairs existed prior to the reference time.

As I pointed out in section 1.2.2.3, state predications are characterized by the property of cumulativity, and, as a consequence, imperfective situations are *extensible*. That is, the interpreter can view a state as continuing over a temporal expanse which includes the reference time. Since continuance is crucial to the definition of temporal *still*, it stands to reason that temporal *still* should be compatible only with imperfective predications.

The case of *already* is somewhat more complicated, as *already* co-occurs with verb forms that do not appear to denote states. According to my analysis (Michaelis 1992),

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[9] The observations made here can readily be applied to the perfect in general. The PrP is examined here primarily because the various interpretations (resultative, etc.) are most easily discernible when they constitute present-state implicata.

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already scopes a state predication (labeled the '*already* state') which denotes a situation that obtains prior to a subsequent interval which in which that same type of state holds. Therefore, the sentence *I already have curly hair* is an appropriate response to a beautician's offer to give the addressee a permanent: the speaker asserts that the present state of affairs (possession of curly hair) obtains prior to any endeavor designed to bring about that state. However, the '*already* state' need not be denoted by a stative proposition: both (4.26a) and (4.26b) are appropriate responses to a dinner offer:

(4.26) a. I've already eaten.

b. I already ate.

Sentence (4.26a) is unproblematic if, as suggested, we regard the perfect construction as denoting a state proposition. Evidence for this proposal will be presented in what follows. What of the use of the preterite in (4.26b)? This usage—somewhat more common in American English than British English—will require us to view the preterite as *unmarked* for that temporal reference feature associated with the resultative PrP. While the preterite can be used to 'refer back' to a previously established past reference time, as in cases of 'temporal anaphora', the preterite can also, like the resultative PrP, evoke a present resultant state. In (4.26b), the preterite has the latter function. While preterite-form predications cannot be said to *denote* a present state, they can, as I will argue in chapter five, conversationally implicate a present result. Therefore, PrP and preterite are interchangeable in examples like (4.26).

4.2.2.1. ***Stativity tests.*** The perfect qualifies as a state with respect to a number of 'tests' described earlier. Firstly, as noted in the previous section, the PrP is compatible

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with the temporal adverb *now*. [10] As I argued in section 1.2.2.2, this fact follows from the property of distributivity: state predications refer to situations which obtain at all times

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[10] It is worth noting that while acceptance of *now* is a viable test for stativity, it does not necessarily indicate a present reference time distinct from event time (presuming the validity of Reichenbach's formulations of the various tenses and phasal aspects). It has been argued (e.g., by Fleischman 1983, Langacker 1991) that (present) prospective aspect is the futurate analogue (or mirror image) of the PrP, insofar as the nonmodal 'periphrastic futures' (*going to, about to*) evoke a present reference time distinct from a *future* event time: S,R...E (as against the PrP: E...S,R). Under this analysis, the PrP and prospective future differ from their respective tenselike counterparts (the preterite and modal future) in that the reference time of the former pair is the present, whereas the reference time of the latter two is equated with event time. A consequence of this distinction in temporal reference is that, as we have seen, the PrP accepts *now* (*Marv has now finished*), whereas the preterite does not: *Marv (*now) finished.* However, acceptance of *now* cannot be a diagnostic of reference-time location in the case of the nonmodal futurate constructions, since both modal and nonmodal futures accept *now*:

(a) Now he's going to be mad.
(b) Now we'll have to start all over again.

The reason for the acceptance of *now*, according to Hornstein (1990:33ff), is that modal constructions headed by *will* and *may*, e.g., represent present-tense predications. More generally, he claims "modals... bear tense and...the distribution of adverbs is tied to the tenses that they carry" (p. 35). Langacker (1991) argues that modals provide a reference point from which "epistemic distance is computed". In the case of present-tense modals, this reference point is (generally) the present. Crucially, Hornstein argues that co-occurrence with *now* does not characterize nonperiphrastic futures. Thus, he notes that while the English sentence (c) is acceptable, its (nonperiphrastic) French translation (d) cannot accept a present-time adverb:

(c) George will now give his lecture.
(d) Georges donnera le conference (*maintenant).

Thus, the English future 'tense' represents a modal construction, containing a stative auxiliary head. Since both the prospective and modal future constructions in English welcome *now*, all English future constructions appear to represent stative predications. The acceptability of *now*, therefore, cannot be used as a test to distinguish the reference-time specification of the English prospective future from that of the English modal future.

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within the evoked reference interval—including the moment of speech, in the case of a present-tense predication. Secondly, the PrP welcomes simple present-tense inflection, where the present-tense predication is given a reportive interpretation. Again, this fact can be attributed to the distributivity property and its corollary, atemporality: a state can be said to exist at a single point in time; this point in time may be the moment of speech. Thirdly, the PaP interacts with *when*-clauses in the manner described by Vlach (1981) for states: the situation denoted by the PaP can be viewed as obtaining prior to the action encoded by the temporal clause. This last criterion is illustrated by the following sentences:

(4.27) a. We had concluded our discussion when Mom came in.

b. We were feeling gloomy when Mom came in.

In (4.27a), the state of aftermath (following cessation of the discussion) obtained prior to the time at which Mom came in (and afterwards as well). The situation denoted by the PaP is then identical to that denoted by a simple stative predication. For example, in (4.27b), the state of being gloomy can be viewed as subsuming the time of Mom's entrance. By contrast, when the main-clause predication refers to an event, that situation is necessarily viewed as subsequent to the event described by the *when*-clause. In sentence (4.28), for example, the discussion is necessarily concluded after the arrival event:

(4.28) We concluded our discussion when Mom came in.

Vlach's stativity test is based upon an inferential property described in section 1.2.2.4: states 'leak'. That is, given a state predication instantiated at some past reference time, the

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reader has license to infer that this state also holds throughout a larger interval, which properly includes the reference time. The larger interval may encompass the occurrence times associated with any number of event predications within the text. In the case of (4.27a), the state of aftermath subsumes the event of arrival, which is asserted relative to a later reference time. The perfect state (*have-occurred (e)*) may also incorporate an event asserted relative to an earlier reference time:

(4.29) Harry rushed in. Marge had left for the dentist.

In (4.29), the state of aftermath following Marge's departure subsumes Harry's entrance. The 'leakage' model is not always a licensed pattern of inference: temporal conjunctions like *when* can obviate the reading in which the state denoted by the PaP subsumes an event asserted relative to an anterior reference time. Consider, for example, the following sentence:

(4.30) The meter reader went down to the basement. When he had finished taking the readings, he came back up.

In accordance with Partee (1984:261), we will assume that "the primary function of a *when*-clause in a simple linear narrative is to provide a new reference time for the associated main clause". In (4.30), according to this model, the *when*-clause introduces a reference time following the time in which the first-mentioned event occurred. What is the relationship between the situation described in the main clause and that described in the associated*when*-clause? According to Partee, the latter is necessarily eventive; the new reference time is a time 'just after' the time of the subordinate-clause event. It is difficult, however, to square this analysis with our claim that the perfect construction denotes a state. If the perfect denotes a state, then the PaP appearing in the *when*-clause of (4.30) cannot

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plausibly be viewed as an event. In fact, Partee does make allowance for stative predications in *when*-clauses. Such predications, she claims, receive an inceptive interpretation. In order to see how this works, let us look at the following example:

(4.31) She placed the pie on the window sill. When it was cool, she took it to the table.

In (4.31), the *when*-clause situation is an inceptive event (the pie's becoming cool), which occurs at some point following the placement event. As noted in section 2.4.1, the time of the inceptive event is equated with the first moment at which the R-situation (here, the state of being cool) obtains. The removal event occurs at a time 'just after' the time of the inceptive. That is, this event is located within the period defined by the tenure of the 'cool' state. Hence, the 'cool' state temporally overlaps with the last-mentioned event (taking the pie to the table), but it does not overlap with the first mentioned event (placing the pie on the window sill). Similar remarks can be made with respect to sentence (4.30). Here, the state denoted by the PaP subsumes the event encoded by the sentence *He came back up*. This event occurs during the 'state of aftermath' denoted by the PaP. The state of aftermath does not, however, subsume the first-mentioned event (his going down to the basement); the state of aftermath is necessarily viewed as obtaining subsequent to the reference time of that event. In simple linear narratives like (4.30-4.31), the inceptive event described by the *when*-clause occurs at a reference time following that of the previously mentioned event.

Thus, in the case of 'states proper', as in the case of the PaP, the presence of the *when*-clause construction imposes a 'left boundary' upon the state denoted by the propositional material in the*when*-clause. The *when*-clause construction therefore signals to the interpreter that the state predication in question, asserted relative to an interval R, does not obtain at an interval R-1, which may include an event predication. The fact that PaP and

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state predications *simpliciter* behave alike with respect to the *when*-clause construction provides evidence that the perfect construction denotes a state.

The claim that perfect-form sentences are state predications is further substantiated by data from those languages in which grammatically encoded viewpoint aspect functions to signal the distinction between inceptive and noninceptive interpretations of (past-tense) state predications. In chapter one, for example, we observed that French encodes these two interpretations by means of the distinction between *imparfait*, on the one hand, and *passé simple* or *passé composé*, on the other. The latter forms indicate the salience of boundaries. In the case of perfectively presented state predications, this boundary is the 'left boundary' or point of inception.

In French, the inceptive-noninceptive distinction as it is manifested with respect to state predications extends in a straightforward fashion to the perfect. Literary French contains two PaP constructions, traditionally termed the *plus-que-parfait* and the *passé antérieur*. These constructions, like their English counterpart, consist of a past-tense auxiliary verb otherwise translatable as *have* (viz., *avoir*) and a past-participial complement. The semantic distinction between the two PaP types arises from the aspectual class of the auxiliary, i.e., whether that auxiliary appears in the *imparfait* or in the *passé simple/passé composé*. In describing this distinction, Kamp and Rohrer (1983) consider the following contrast pair:

(4.32) Cunégonde s'évanouit. Son père $\left\{ \begin{matrix} \text{avait} \\ \text{*eut} \end{matrix} \right\}$ chassé Candide du château...

"Cunegonde fainted. Her father had chased Candide out of the castle."

In (4.32), the acceptable form is the imperfect form of the auxiliary, that is, the *plus-que-parfait*. The form that is ruled out is the perfective form of the auxiliary, i.e., the *passé antérieur*. With respect to (4.32), Kamp and Rohrer argue (p. 258), "The *passé antérieur* cannot express anteriority with respect to a reference point which itself lies in the past of the speech point". That is, the event referred to by the PaP in (4.32) is necessarily understood

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as anterior to the first mentioned event (Cunegonde's fainting), since the latter event caused the former. However, the *passé antérieur* signals that the state of aftermath denoted by the perfect construction begins at a point following the last-evoked reference time (the time of Cunegonde's fainting). In this capacity, the *passé antérieur* occurs in *when*-clauses. Kamp and Rohrer give the following (attested) example of this usage:

(4.32) Enfin elle referma [perf] ma porte. Quand elle eut [perf] verrouillé la sienne, je regagnai [perf]...mon poste d'écoute.
"Next, she closed my door again. When she had locked her own, I took up my listening post again."

Here, the *passé antérieur* indicates that the past state denoted by the perfect construction (that of her door being closed) obtains only at points following the reference time in which the previously mentioned event (her closing 'my door') occurred. Correspondingly, the R-situation—the event of her locking her door—is understood to occur within a reference time following that of the initial door-closure event. All times following culmination of that event are times at which the perfect-state obtains; hence, both the latching event and its aftermath, during which the speaker takes up his listening post again, must be viewed as subsequent to the door-closure event.

The foregoing discussion has shown that the perfect behaves like a state predication in the following respects: the perfect is compatible with present-tense inflection, where the resulting predication is given a reportive interpretation; the PrP accepts the temporal adverb *now*; and the PaP receives an inceptive interpretation identical to that assigned to states in *when*-clauses. Such evidence provides support for our claim that the perfect construction refers to a state.

4.2.2.2. *Aspectual adverbs.* In this section, as promised, we will investigate two ostensibly problematic cases involving adverbial co-occurrence. Given the stativity of the

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perfect, we would expect that the aspectual adverbs*already* and *still* would freely occur in perfect-form sentences. As shown in (4.33), however, this is not in fact the case:

(4.33) a. *Harry has still painted the picture.

b. ??My family has already lived in Piedmont since 1967.

c. Doctor, I've already waited for three hours.

Sentence (4.33a) indicates that *still* is not compatible with the perfect, while sentences (4.33b-c) indicate that *already* may or may not be compatible with the perfect. The constraints involved in the latter case seem especially mysterious: both of these sentences represent continuative PrPs, and the acceptability of *already* appears to hinge upon the presence of a durational as against a 'lower bounding' expression of temporal extent. As a prelude to an investigation of these phenomena, let us look at the class of aspectual adverbs, to which *already* and *still* belong.

The label *aspectual adverb* is used in my study of *already* (1992). Here, I argue that within the set of adverbs which evoke the temporal location of a situation, one can distinguish two broad semantic classes. Firstly, there are adverbs like *yesterday*, which 'co-refer' with the tense specifier to the reference time, further describing the reference time. The adverb may (a) completely identify the reference time (e.g., *He reached the north pole at noon*) or (b) provides a frame within which the reference time is located (e.g., *Harry slipped on the sidewalk yesterday*). Adverbs in this class require a particular verb tense (e.g., past in the case of *yesterday*), but are compatible with either perfective or imperfective aspect: *Harry died yesterday* versus *Harry was unhappy yesterday*. Secondly, there are adverbs like (temporal) *still*, *already* and *yet*, which are compatible with past, present or future reference times, e.g., *He was still upset*, *He is still upset*, etc. Adverbs of the aspectual class do not interact with tense in the fashion described. Instead, the temporal relation of the state to the time of coding is established by the tense of the predication alone.

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The adverbs *already* and *still* resemble temporal adverbs like *yesterday* insofar as both adverb types (a) have propositional scope and (b) can be regarded as a two-place function ('obtains at') relating that proposition to a time interval. The distinctive ability of aspectual adverbs to combine freely with various tenses can be attributed to the fact that their chief function is not to place an eventuality with respect to speech time; it is to place that eventuality with respect to a nondeictic interval (i.e., one not necessarily equated with speech time). In the case of *still*, this interval is a (presupposed) period of prior instantiation of the state of affairs in question (König and Traugott 1982).In the case of *already*, this interval is a subsequent phase (the reference interval). *Still* is therefore analogous to imperfective aspect: it codes continuity or stasis over time. *Already* is analogous to prospective aspect (*be going to*, *be about to*), which, as we saw in chapter one, relates an event to the preparatory phase that precedes it; the prospective construction refers to the preparatory phase. These analogies harken back to Traugott and Waterhouse's (1969) claim that adverbs like *already* and *still* are manifestations of aspectual categories. This claim, however, is seemingly based only upon the aspectual class of predicates with which these adverbs typically co-occur. Such co-occurrence facts imply that the adverbs in question are sympathetic to the semantics of the associated aspectual category. Nonetheless, *already* cannot, as Traugott and Waterhouse suggest, simply 'copy' semantic features of the perfect (*qua* resultative perfect); as we have seen, *already* need not co-occur with the perfect. The semantic structures of the aspectual adverb and its attendant verbal aspect are thus not wholly isomorphic.

The clashes shown in (4.32) are explicable given an account in which the meanings of aspectual operators like the perfect are relativized to constructions. In what follows, we will explain these clashes in terms of highly specific semantic constraints attached to the perfect and associated adverbial expressions. Let us begin with the interaction of the perfect with temporal *still*.

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Both Hirtle (1977) and Hoepelman and Rohrer (1981) observe that temporal *still* does not welcome the perfect aspect. (The latter authors notice the same constraint in German.) This restriction will be motivated via reference to a presupposition connected to *still*—that of expected or possible cessation. The restriction is exemplified in (4.34):

(4.34) a. *Harry has still been unwilling to go.

b. *Harry has still fed the cat.

Let us presume that *still* in such cases has wide scope with respect to the 'perfect operator' *Have*: if *still* is to be viewed as a scalar operator, relating asserted and presupposed propositions related within a given scalar model, then *still* necessarily has sentential scope. Examples like (4.34) appear to undermine the validity of accounts in which the perfect is viewed as an operator that maps an event predication into a state predication denoting a result of that event (Herweg 1991a, 1991b). If perfect-form sentences are state predications why should they fail to accept temporal *still*?

According to one line of explanation suggested by Parsons (1990), the result state entailed by sentences like (4.34b) is merely that of the event's having culminated at some point prior to now. A more specific result (e.g., the presence of a fed cat) is contextually inferred; the result entailed by the resultative perfect *per se* is indeterminate (cf. also Fenn 1987). Parsons argues that this state of aftermath "cannot cease holding at some later time" (p. 234). Since there is no possibility that the state of aftermath, once in force, might not hold at speech time, sentences like (4.34)—which assert that the relevant state continues to the present—are singularly uninformative, and are therefore proscribed via quantity implicature.

Hoepelman and Rohrer account for the anomaly of sentences like (4.34b) in a similar way. They assume, as do I, that temporal *still* evokes a "world of speaker's expectations" in which the state coded by the *still*-marked predicate has ceased at the evoked reference

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time (R). This expected cessation constrasts with the state's actual continuance to R. A diagrammatic representation of this situation is given in figure 4.3, adapted from Hoepelman and Rohrer:

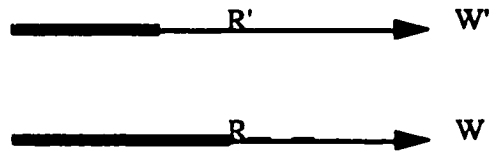


Figure 4.3

In figure 4.3, the time line in the world defined by the speaker's expectations (W') contains a reference time analogous to that located on the time line which represents the 'speaker's reality' (W). A state of affairs (represented by the thick line) continues up to (and perhaps beyond) R in W. In W', this state of affairs has ceased at some point prior to R' (the counterpart of R in W'). Therefore, under the Hoepelman and Rohrer account, *still* has two presuppositions: (a) the presupposition of prior instantiation of the state in W and (b) the presupposition of cessation at R' in W'. The latter presupposition is reflected in the intuition that a sentence containing temporal *still* is uttered only when there is some possibility that the state of affairs in question might have ceased at R. Sentences like (4.35) are odd:

(4.35) *Uncle Harry is still dead.

This oddity arises from the fact that the speaker cannot (ordinarily) countenance a world W' in which Harry is resurrected at some point following his demise, as would be required by the schema in figure 4.3. Hoepelman and Rohrer argue that this schema also conflicts with the semantics of the resultative perfect. The resultative perfect denotes the occurrence

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of an event whose resultant state is valid thereafter. With respect to the semantic contributions of *still* and the perfect operator, sentences like (4.34b) are self-contradictory. Because it is a resultative perfect, sentence (4.34b) asserts that the aftermath of the past cat-feeding event obtains at present (R). Because it contains *still*, (4.34b) presupposes that this state of aftermath obtains at some point prior to R. In addition, according to figure 4.3, the sentence presupposes that this state does not continue to R' in W'. However, the speaker who chooses to use the resultative perfect cannot be said to expect that the state of aftermath will have ceased at R. In other words, the presupposition of expected cessation at R conflicts with the assertion that the state of aftermath obtains at R.

This situation is complicated somewhat by the interaction of upper-bounding scalar operators with the perfect and wide-scope *still*. Sentence (4.36) is acceptable:

(4.36) Harry has still only FED the cat.

In (4.36), the small caps indicate a point of prosodic prominence denoting a narrow or contrastive focus. This focus is imposed by the scalar operator *only*, which scopes the perfect-form proposition, *Harry has fed the cat*. Following McCawley (1987), we can view *only* as indicating that the proposition in which it appears denotes a less 'extreme' situation with respect to a scale along which situations of a given type are ranked. The situations in this case relate to duties that Harry has to discharge vis-à-vis the cat. This model presupposes that the feeding of the cat is a lesser duy than, say, grooming or entertaining the cat. *Only* imposes an upper bound upon the proposition *Harry has fed the cat*, relative to the scalar model at issue; Harry has performed the duty specified but nothing more. If *only* were absent, the proposition would be upward compatible vis-à-vis the scalar model; it would in fact be entailed by any proposition occupying a more advanced point in the model (Harry has walked the cat, etc.). By removing the upward compatibility of the proposition, *only* creates a proposition which denotes a situation susceptible to change.

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That is, unlike (4.34b), (4.36) does not denote a state that is eternally valid. The state which consists in the aftermath of a cat-feeding event will never change. By contrast, the state consisting in the aftermath of a cat-feeding event *simpliciter* (i.e., one unaugmented by any further cat-maintenance event) will change at all and any points following the performance by Harry of a further cat-related duty.

The foregoing account of the incompatibility exhibited in (4.34b) has the advantage of generalizing to that exemplified in (2.3), repeated here as (4.37):

(4.37) *Harry is having washed the car.

Sentence (4.37) shows that the perfect does not progressivize; this sentence was discussed in chapter two. Since the progressive construction, like temporal *still*, requires that the R-situation (or 'input' situation) is one susceptible to cessation, it is incompatible with the resultative perfect. Given this mode of explanation, we preserve the assumption that the perfect, like the progressive, refers to a state. Since the state referred to by the perfect is one which—once in force—cannot cease, the perfect is not compatible with expressions like temporal *still* or constructions like the progressive which presuppose that the relevant state can terminate.

Another explanation for the anomaly shown in (4.34) portrays the perfect not as a stativizing operator but as a completive marker. This explanation is offered by Hirtle (1977), According to whom there exists an effective equivalency between *still* and the temporal adverb *during*. In essence, this claim reflects the intuition, mentioned above, that reference time provides an internal perspective upon a state. Hirtle provides the following account of sentences like (4.34b): "one cannot reconcile the position of interiority expressed lexically by *still* with the position of posteriority expressed grammatically by the [perfect] aspect" (p. 38). With respect to its "position of posteriority" vis-à-vis an event, the present perfect does not differ from the preterite; both present an event as having

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culminated at some time prior to speech time. In this respect, Hirtle's account of (4.34b) resembles that which we must provide for sentences like the following:

(4.38) *Harry still fell down.

This sentence is anomalous because temporal *still* cannot scope an event proposition. Such propositions denote nonextensible situations (cf. section 1.2.2.3). The question now arises as to whether either Hoepelman and Rohrer's account of (4.34b) or Hirtle's account can be extended to that perfect type involving an imperfective participal complement—the continuative (4.34a).

The validity of Hirtle's account hinges upon the assumption that the continuative equates R with the time of cessation of the coded state. As Morrissey (1973) observes, however, continuative perfects are in general vague with respect to whether or not R provides a 'rightward boundary' upon the denoted state (cf. section 1.3.3.3 on the upward compatibility of state-phase or quantized-state predications). In (4.39), for example, continuation of the state beyond (the present) reference time is a virtual certainty:

(4.39) Our Dalmatian has been deaf since birth.

Therefore, the continuative perfect does not evoke a posterior reference point in the sense that the state at issue ceases at or before R. Instead, according to Chafe (1970:172), sentences like (4.34a) and (4.39) evoke a construal in which "everything is understood to obtain at the time of reference, as in a nonperfective [=nonperfect] sentence, except that the beginning of the state...is pushed back to an earlier time". In other words, the continuative evokes the existence of a time span stretching from the inception of the state to (at least) R. The left boundary of this span may be marked by a *since* adverbial, or the extent of the state phase itself may be denoted by a durational adverb (e.g., *for the last three years*).

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Like a durationally bound state, the continuative perfect is downward entailing (with respect to the right boundary): if, in 1993, Harry has been in therapy since 1989, then he has also been in therapy since 1991, 1990, etc. Further, the continuative PrP resembles a durational adverb in that the state denoted by the complement verb is not upper bounded with respect to the right boundary: the state in question might continue beyond R. Finally, the continuative, like a durational adverb, represents a grammatical means of individuating a state. In section 1.3.3.3, we claimed, in accordance with Herweg (1991a:371), that "the occurrence of a phase of a state is an event". Therefore, our explanation for the anomaly of (4.38) applies to (4.34a) as well. Bounded states, as events, are nonextensible; for this reason, among others, they reject temporal *still*. The anomaly of (4.34a) persists even when an apparently identical prior phase is invoked. The following sentence is peculiar:

(4.40) ??Harry had been unwilling to go until yesterday; in fact, since then he has still been unwilling to go.

In (4.40), the two phases are only superficially similar: as bounded states, each is a distinct episode.

Historical evidence indicates that the incompatibility exhibited by (4.34a) was not always present: temporal *still* at one time served as a durational adverb akin to *constantly* or *continually* (Kemmer 1990). In this capacity, *still* co-occurred with the continuative perfect, the adverb being in the scope of the perfect predication. Kemmer gives the following citation from 1704: "...his past reign, which *still* has been attended with one continu'd Series of Misfortunes". The diachronic meaning shift in which, according to Kemmer, temporal *still* changes from a frequency adverb to a temporal reference point yields a concomitant prohibition upon its co-occurrence with the continuative perfect. States quantized by the continuative have an episodic construal, and hence cannot properly subsume this reference point.

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A difficulty with this line of explanation arises when one recalls two claims made earlier: (a) that *still* has wide scope with respect to the perfect operator, and (b) the aspectual character of the perfect, continuative or otherwise, is determined by that of the auxiliary head, not by that of the complement (the latter being a bounded state in the case of the continuative). As the auxiliary head here is a state, why should there not be the possibility of a scoping in which the stative predication represented by the perfect auxiliary falls within the scope of *still*?

One answer to this question is suggested by Mittwoch's (1988) analysis of the continuative perfect. In providing truth conditions for the continuative, Mittwoch (p. 218) specifies that the reference time must be the final moment of an interval in which the particular state obtains. In this respect, the continuative perfect does impose a posterior reference point: the reference time evoked by the continuative perfect is equated with the cessation of one phase of the state, in much the same way that reference time is equated with the culmination (or endpoint) of an event. Here again, use of *still* is incompatible with the retrospective or external viewpoint invoked by the continuative perfect (and by event predications in general).

Of course, the continuative perfect, like the resultative perfect, differs from a preterite-form event predication in that only the former is stative. Nevertheless, the state at issue is one which cannot be regarded as persisting from an earlier point. The state is the last moment of a phase; no earlier point within that phase is identical to this moment. The interaction of *still* and the continuative perfect is further constrained by the presupposition of possible cessation: the situation denoted by a continuative perfect is one in which a phase of a state has occurred. This phase cannot 'cease' to exist once it has culminated. Therefore, a speaker cannot be said to evoke a possible world in which the phase has ended. This explanation is identical to that given for the anomaly produced by the interaction of *still* with a resultative perfect (4.34b).

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The incompatibility of perfect and temporal *still* does not extend to negated perfects. Sentences like the following are acceptable:

(4.41) You still haven't answered my question.

Negated perfects are construable as continuative (i.e., universal): for all times within a present-inclusive range there is no event of question answering. These perfects can also be construed as existential perfects bearing external negation (cf. Mittwoch 1988): it is not the case that there was an event of question answering with a present-inclusive range of times. The equivalence between existential and continuative understandings disappears when a downward entailing bounding durational is added. The following sentence, (4.42), can only be a continuative PrP: [11]

(4.42) He hasn't answered my question for twenty minutes

As a continuative perfect, (4.42) will reject temporal *still* for the reasons given above. Negated perfects accept *still* on the externally negated existential reading only. Why should this be the case? Under (external) negation, the existential perfect simply denies the existence of some event within a specified range of times; the continuance asserted by *still* is not directly related to that event, but is simply continuance of this deniability. The interaction of *still* and a negated existential perfect is constrained by the presupposition of possible cessation. The state of there not having been an event of a given kind must be a state capable of ceasing. The state of there having been no answer to a given question

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[11] The reader is asked to ignore a (marginal) reading of (4.40) in which the negative has wide scope with respect to the durational, and the durational scopes the proposition *He answer my question*, which is correspondingly interpreted as an activity. Under this reading, sometimes called *polemic negation*, the auxiliary bears stress.

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would cease were that question to be answered. Nonnegated existential-perfect sentences like the following are, however, anomalous:

(4.43) *Harry has still been there three times.

Numerals are downward entailing and, crucially, upward compatible (barring upper-bounding implicata). Therefore, any further accumulation of visits by Harry will not negate the truth of the proposition *Harry has visited three times*. This proposition will be entailed by, e.g., *Harry has visited fifteen times*. However, existential perfects containing an upper-bounding scalar adverb do accept *still*. Consider sentence (4.44):

(4.44) Harry has still only visited three times.

In (4.44), the presence of *only* removes the upward compatibility of the numeral expression *three times*. [12] The numeral expression no longer denotes the ascending half-

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[12] It is often mistakenly assumed that *at most* represents an upper-bounding device akin to *only*. The following contrast pair indicates that the two adverbs are quite distinct:

(a) She has still put in $\left\{ \begin{matrix} *\text{at most} \\ \text{only} \end{matrix} \right\}$ two hours.

At most differs from *only* in that the former is not downward entailing in contexts otherwise conducive to downward entailment. Thus, the sentence *She has had at most four husbands* does not, unlike the comparable sentence with *only*, entail that she has had three husbands. *At most* has an epistemic quality—it evokes the speaker's uncertainty as to what position to assign an entity (in this case, the set of 'her husbands') on a scale. *At most* then indicates that whatever the actual value of the variable invoked, it will be less than or equal to the value specified. The variable is invoked by a propositional function, e.g., *She has had X husbands.*

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line from three to infinity. Therefore, one can imagine the cessation of a state of there having been three visits; cessation of this state will occur when there is any additional visit. Therefore, the possible-cessation presupposition of *still* is satisfied in sentences like (4.44).

In concluding this discussion, let us review the following points. Firstly, acceptability of temporal *still* is contingent upon the susceptibility of the evoked state to cessation. If the state denoted is one that could not do otherwise but obtain at the reference time, then the presence of *still* creates semantic anomaly. In the account offered here, temporal *still* resembles a modal operator, in that it invokes a parallel possible world in which the state of affairs in question does not extend to reference time. Secondly, the ability of temporal *still* to combine with the perfect construction relies upon the availability of an interpretive framework in which the state denoted by the perfect is one which might, once in force, have ceased at R. Such a framework is supplied by external negation, in the case of the existential perfect , and by operators which signal that the coded proposition is not 'upward compatible' with respect to an evoked scalar model. Among the propositions interpreted relative to such a model are those containing numeral expressions, e.g., durational adverbs in such sentences as *He has worked for (only) three hours.*

Under this account, the constraint exemplified in (4.34) has a fairly general semantic basis. The generality of this restriction is demonstrated by the fact that our account of the anomaly exemplified in (4.34) can also be used to explain why the perfect cannot occur within the scope of the progressive operator (4.37). As we will see, susceptibility of a state to cessation, as well as upward compatibility vis-à-vis a given scale, is also relevant to the interaction of the perfect with the adverb *already*. Given the availability of a general semantic explanation, we have reason to wonder whether it is appropriate to regard to restriction exemplified in (4.34) as a parochial constraint upon the perfect construction.

It is useful, in this regard, to recall that the term *parochial constraint* does not equate with *idiosyncratic constraint*: parochial constraints may have no manifest semantic or discourse-pragmatic basis, or they may be readily motivatable in semantic or pragmatic

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terms. Language-particular constraints, like that barring event-time specification in the case of the resultative PrP, are somewhere in the middle of this continuum. While we will attempt to motivate this constraint by reference to the nonanaphoric nature of the resultative PrP, and its consequent inability to 'corefer' with a past-time adverb, we will also recognize that the explanation adduced is specific to English; it is not generalizable to, e.g., Spanish, which lacks the time-specification constraint (Comrie 1976). The constraint exemplified in (4.34) can be regarded as a universal semantic constraint. For example, Hoepelman and Rohrer (1981) provide a similar explanation for analogous data in German.

All such explanations, however, must refer to the meaning of the perfect construction. That is, as I pointed out in chapter two, it is not enough to say that a given exponent of phasal aspect—e.g., the perfect or progressive—denotes a state predication, since, as we have seen, the behavior of state predications *simpliciter* is distinct in a number of respects from that of constructionally defined states. All explanations which evoke features of a given construction—whether semantic or discourse-pragmatic—entail the existence of some set of parochial constraints.

Many of these parochial constraints may also be represented as ecologically based constraints, since the motivation for a grammatical restriction may be found in some independently recognized feature of systemic ecology. In the present case, the time-specification constraint attributed to the resultative PrP can be motivated with respect to a discourse-functional opposition between resultative PrP and preterite. This opposition is independently evidenced by the data related to use of the resultative PrP in those contexts in which the R-situation represents a pragmatically presupposed event proposition; these data will be discussed in detail in the next chapter.

Let us now turn to the interaction of the perfect and *already*. Co-occurrence restrictions observable here will provide further evidence for an intimate connection between the disposition of a situation over time and the location of that situation (*qua* proposition)

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within a scalar model. In particular, we will again have recourse to the notion of upward compatibility within a (numerically based) scalar model.

Above, we discussed the analysis of *already* given in Michaelis 1992: *already* scopes a state proposition, indicating that the state in question obtains prior to a 'reference interval' containing a like state type. Again, given our analysis of the perfect as a state predication, we would expect that *already* and the perfect would freely co-occur. In fact, they do not, and our job here will be to explain why the two aspectual constructs are sometimes incompatible. One question which will arise here is the following: do particular perfect interpretations create semantic anomaly when coupled with *already*? Mittwoch (1988) claims that the continuative perfect is not compatible with *already*. I will argue against this claim, by demonstrating that the incompatibilities observed by Mittwoch are largely attributable to the lack of upward compatibility of the state denoted, vis-à-vis a numerically defined scale.

As I claimed above, *already* has wide scope with respect to the 'perfect operator'. That is, *already* scopes the state denoted by the perfect. In resultative-PrP sentences like *I've already eaten*, the (present) state scoped by *already* is that of satiation. *Already* here invokes a model based upon temporal priority, in which the denoted state obtains prior to any effort to effect that state. Sentence (4.45) demonstrates that the existential perfect also welcomes *already*:

(4.45) Grandma's already called three times today.

Already in (4.45) has a number of possible understandings. One interpretation is that in which the accretion of three calls is premature with respect to the time ordinarily assigned that eventuality in a particular schedule. Thus, the speaker may utter this sentence to express surprise that Grandma has called three times before noon, when total of three phone calls does not ordinarily occur until evening. Another salient interpretation is that in

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which a high number of calling events exists prior to any further accretion of calling events on a numerical scale. Thus, (4.45) may be uttered by an exasperated recipient of Grandma's calls, to signal the hearer that there will have been a very high number of calling events by the time the day is through. The two uses of *already* corresponding to the two interpretations of (4.45) mentioned here are, respectively: (a) the denoted state exists prior to its canonical time of eventuation within a conventional course of development (a time line) and (b) the denoted state (which involves a scalar property) is saliently present prior to accretion of higher values on a scale for that property. It is instructive to contrast (4.45) with the anomalous sentence (4.43), repeated here for convenience:

(4.43) *Harry has still been there three times.

In (4.43), upward compatibility of the frequency expression clashes with the presupposition of possible cessation at reference time—a presupposition associated with temporal *still*. This presupposition is not associated with *already*, and therefore (4.45) is acceptable.

As I mentioned earlier, Mittwoch (1988) claims that *already* is incompatible with the continuative perfect. This interaction is exemplified in (4.46):

(4.46) Harry has (already) been running for two hours.

This sentence is patently acceptable; therefore, I disagree with Mittwoch's assignment of ungrammaticality to *already* in (4.46) (= Mittwoch's (154)). While Mittwoch is correct in asserting that bounded states like *be running for two hours* are event predications (cf. sections 1.3.3.3 and 2.4.2.1), she does not recognize that the perfect is stative whatever the aspectual class of its complement. In (4.46), *already* means the same thing that it means in 'simple' stative sentences like *You already have curly hair*: the AS or '*already* state' (an

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aftermath) obtains at the time of coding. Sentence (4.46) can therefore be used to assert that a fairly long expanse of running activity has accumulated on a numerical scale prior to any further running at times subsequent to now.

We should, however, account for true anomalies involving the interaction of *already* and the continuative perfect, as observed by Mittwoch. These are exemplified in (4.47-4.47):

(4.47) John has already been running for (*the last) two hours.

(4.48) For two hours, John has (*already) been running.

The anomaly of sentence (4.47) can be attributed to the fact that the phrase *the last* within the durational complex invokes the inception or lower bound of the quantized state. Sentence (4.47), if uttered at four, can be paraphrased by (4.49):

(4.49) John has (*already) been running since two.

Sentence (4.49), which explicitly evokes the lower boundary of the state phase *John be running*, likewise rejects *already*. Why should this be? When coupled with continuative perfect, *already* typically signals that the AS represents a fairly advanced point along a scale. The scale here is a time scale, along which 'quantities' of the relevant state are arrayed. Crucially, *already* requires the possibility of further accretion of values (quantities) along this scale. The AS denoted by the perfect must then be compatible with 'rightward expansion' vis-à-vis the origin of the scale. The state of having run since two (or for the last two hours) is not expansible, whether or not John continues to run for some period beyond reference time. That is, the focused left boundary of the state is not upward compatible. By contrast, the state of having run for two hours *is* upward compatible with respect to its *right* boundary. This right boundary can be shifted as John engages in further

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running beyond R. The left boundary (i.e., the point of inception of his running) will, however, remain constant.

As mentioned earlier, there is another possible interpretation of *already*-bearing sentences containing numeral expressions (e.g., frequency adverbs or durational adverbs): the AS is premature with respect to the canonical point of eventuation assigned to it along a time line. Here again, the presence of a *since*-adverbial creates anomaly: the speaker of (4.47) cannot be said to have expected that the state of John's having run since two would obtain at a later point than it in fact did: this state must be said to obtain at all points following that time denoted by *two*.

Mittwoch accounts for (4.48) simply by noting that it is unequivocally a continuative perfect; continuatives in her system require a durational adverb to scope the perfect operator. Preposing of the durational is said to reflect this scope. This analysis is questionable: the interval to which bounded-state predications is relativized cannot be the present moment, but only a past moment, however incrementally removed from the present. As we have seen, bounded states, as events, cannot be referred to by present-tense reports: sentences like **Harry is in love for a week* are anomalous. Therefore, preposing of the durational does not indicate that the durational has wide scope with respect to the perfect operator—just as a preposed durational does not have scope over tense. Instead, the preposed durational flags an illicit scoping, in which the perfect operator has wide scope with respect to the AS. Since the perfect operator must scope any durational expression, we can account for (4.48) by proposing that the perfect operator cannot have wide scope with respect to the AS. *Already* must have wide scope with respect to the perfect operator.

Why is this? In the case of the continuative perfect, reference time is located at the rightward boundary of a time span during which a state obtains. In the case of (4.48), this time span is the AS. As defined here, however, the AS obtains at reference time; since the AS is a state predication, it subsumes its reference time (cf. section 1.2.2.4). Sentence

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(4.48) is anomalous because the AS does not subsume reference time; the AS is instead the bounded state which obtains at times prior to and including the reference time.

To conclude this section, let us review the major points raised here. We have noted that incompatibilities involving the perfect and the aspectual adverbs *already* and *still* do not vitiate an account which depicts the perfect as a state predication. Upon closer inspection, we find that these incompatibilities are amenable to a highly general semantic explanation. This explanation involved the upward compatibility of quantity expressions like durational adverbs, and the interpretation of stative assertions vis-à-vis a scalar model.

Furthermore, these data indicate that the time line across which a state is disposed can be seen as a scalar model, in which the evoked potential for change (from satisfaction to nonsatisfaction of the stative predication) determines whether the perfect-form assertion can be assimilated to that model. Because the state denoted by the perfect is not generally subject to change, a particular scalar interpretation must license the supposition that the state of affairs now present might have ceased at R. Since this mode of explanation refers to the state *denoted by the perfect*, rather than to state predications *per se*, it provides further evidence that an account of perfect meaning must refer to parochial semantic features, i.e., construction-specific interpretive constraints.

4.2.3. The Detachment of 'R' from Speech Time

In this section, we will explore usages of the PrP exemplified in (4.12-4.14), repeated here for convenience:

(4.12) a. When you have completed section A, raise your hand.

b. If you have not responded by Tuesday, the contract will be nullified.

c. After they have returned a verdict, we're likely to see another riot.

(4.13) a. There's always a *Tribune* reporter on the scene when a disaster has occurred. (= McCawley's (14g))

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b. In that story, someone who has just been released from prison steals the crown jewels. (= McCawley's (16a))

(4.14) If I ever meet a woman who has read *War and Peace* five times, I'll ask her to marry me. (= McCawley's (17a))

These sentences exemplify usages of the PrP in which the reference time does not coincide with the time of speech. Instead, reference time is equated with the time that is referred to by a present-tense predicator, which appears in the associated main clause. As required by the general perfect construction, however, event time necessarily precedes reference time—whether or not reference time is equated with speech time. What distinguishes the uses exemplified in (4.12-4.14) is the particular form of temporal reference associated with the present tense, which, as we have noted, has a variety of uses other than that of indicating 'full instantiation' of a state of affairs at speech time. The specialized uses of the present which will concern us in this section are exemplified in (4.50):

(4.50) a. They **catch** speeders at that corner.

b. In *Europa, Europa*, a Jewish boy **masquerades** as an Ayran youth.

c. If I **get** that interview, I'll be shocked.

The use found in (4.50a) is the habitual present, discussed in sections 1.2.2.2 and 3.2.1. The present tense evokes "a variable that takes past, present and future values" (McCawley 1981:88). That is, the sentence is used to assert that speeder-apprehension events are located throughout the present-inclusive interval. In sentence (4.50b), the present tense refers to the present of the story world invoked in a plot retelling. The present

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of the story world is a time at which a progressive presentation of the activity predicate *masquerade* would be appropriate. In (4.50c), the present tense (commonly called the *futurate present*) refers to a future time (or a range of future times) at which the predicate in question may or may not be satisifed.

Corresponding to each of these uses of the present, we find a nonpresent use of the PrP. In these instances, the PrP is used to refer to an event anterior to the reference time evoked by the present-tense predication. The examples in (4.51) are analogous to those given in (4.12-4.13):

(4.51) a. Whenever I call Dayna, she has been to some exotic locale.

b. "Eastwood plays a retired gunslinger, still fighting the demons of his past even after he has become a family man." —SF *Chronicle* 3/30/93

c. If you find on Monday that you haven't improved, you can call the doctor.

In (4.51a), a generalization over times is drawn: for all times at which the event of my calling Dayna occurs, the state of Dayna's having returned from a trip obtains. In Partee's terms (1991:445), sentences like (4.51a) exemplify the "cobinding of an implicit time variable": the times at which calling events occur are times at which various trip-taking event have occurred (i.e., at which states of aftermath obtain). The PrP in (4.51a) has an existential rather than resultative interpretation. That is, one or more trips have taken place prior to the variable reference time; the resultant state of a departure (that is absence of Dayna) does not obtain at reference time. The presence of the existential reading is made clear by the use of the locative expression *been to* rather than the regular participial expression *gone to*. The expression *be to* is tied to the presence of the perfect construction. Thus, for example, we find no **Harry is to Rome*. While use of the participle *gone* would

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yield resultative-existential ambiguity, it seems that the expression *be to* unequivocally invokes the existential intepretation (cf. Comrie 1976). Hence, while (4.52a) is interpretable as an existential or resultative perfect, (4.52b) is necessarily existential:

(4.52) a. Harry has gone to the dentist.

b. Harry has been to the dentist.

Sentence (4.52b) entails that Harry is not at the dentist now. However, if we recall our earlier discussion of the interpretive indeterminacy surrounding resultant-state implications, we can see that there is nothing to prevent (4.52b) from having a resultative interpretation: Harry is now in pain as a result of an earlier visit to the dentist. In this case, the resultant state differs from that which is associated with the Aktionsart [13] of *go*: location of the theme element in a place other than the starting point. The present resultant state implied by (4.52b) is instead calculable from our knowledge of trips to the dentist. When interpreted resultatively, (4.52b) is not compatible with the adverb *before*, which would indicate the occurrence of one or more dentist visits within a present-contiguous time span of indeterminate length. The dentist visit in question is necessarily recent—recent enough for its consequences to be felt at speech time. If, however, we confine ourselves to those resultant-state implications which arise from content-verb Atkionsart, the presence of the participle*been to* does indeed obviate a resultant-state reading of the PrP. The expression *be to* is an idiomatic concomitant of the existential intepretation, and therefore, according to

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[13] Here, we mean *Aktionsart* as a shorthand for 'lexical decomposition based upon aktionsart class'. A decomposition schema of this sort was discussed in section 1.3, with respect to Dowty's (1979) proposal to derive the semantics of accomplishment sentences from the complex sentential connective CAUSE BECOME, which links agentive activity and stative predicators. In the case of *go*, the trajector of the motion predicate and the theme of the locative state are necessarily coreferential.

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Zwicky and Sadock (1975), provides evidence that the perfect is ambiguous rather than vague with respect to the existential and resultative readings.

Returning to sentence (4.51a), we notice that this sentence lacks an ambiguity associated with a version in which both main and subordinate clauses contain a PrP:

(4.53) Whenever I have called Dayna, she has gone to an exotic locale.

Sentence (4.53) does not constitute a panchronic generalization, since the temporal variable evoked by the subordinate clause does not range over future times. The generalization given holds only for past times within a present-contiguous time span. As Palmer points out (1968), sentences like (4.53) are vague with respect to the manner in which main-clause and subordinate-clause event-denotata are sequenced. There are two possible sequencings—both of which rely upon an existential interpretation of the subordinate-clause PrP: there is some number of calling events within a time span whose upper bound is the present. For all calling events, there is an associated trip-taking event. On one interpretation of (4.53), each calling event is preceded by a trip-taking event. On this reading, either an existential or resultative reading may be evoked, depending upon whether, within the interpretation's calculation, Dayna is present or absent during the associated calling event.

On another interpretation of (4.53), each trip-taking event is *subsequent* to the associated calling event. In this case, the main-clause PrP necessarily has an existential interpretation. This existential interpretation is, however, distinct from that licensed under the first interpretation. In the latter case, the reference time of the PrP is the present. In the former case, the reference time is a temporal variable, ranging over calling-event times: the interpreter must view each trip-taking event as prior to a calling event in order to preserve the anteriority relation denoted by the perfect: $E < R$. The trip-taking events provide the range of reference times with respect to which anteriority is calculated. In the case of the

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latter interpretation, anteriority is calculated with respect to the time of speech: there are one or more trip-taking events prior to this time. The two interpretations of (4.53) are schematized in figure 4.4:

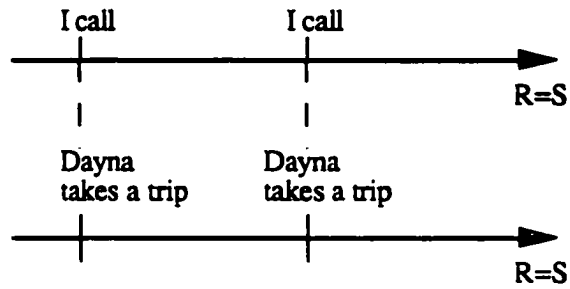


Figure 4.4

In this figure, some number of events—of both calling by me and trip taking by Dayna—are arrayed along parallel time lines. All such events are prior to a reference time equated with speech time. Both main clause and subordinate clauses contain PrP assertions interpretable as existential perfects. A dashed verticle line connects events on the twin time-lines. This notation indicates that the ordering between the members of each pair of events is left open. Each trip-taking event may be subsequent to a calling event. Alternatively, each trip-taking event may be prior to each calling event. In the latter case, the time of each calling event represents a 'surrogate reference time': the calling event is the reference time with respect to which anteriority (of the trip-taking event) is computed.

The sequencing of the main-clause and subordinate-clause situations may hinge upon the aspectual class of the main-clause predicator. Where the main-clause situation is a state, the stative situation may subsume the event denoted by the subordinate-clause predicator:

(4.54) Whenever I have called Dayna, she has been upset.

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In (4.54), the state of Dayna's being upset may have begun prior to the time of each calling event, subsuming the calling event, or it may begin after each calling event (i.e., it may have an inceptive interpretation). This fact follows from the properties of cumulativity and distributivity, which, as we saw in section 1.2.2.4, enable a state predication to subsume its reference time.

The question arises as to why sentence (4.51a), in which the subordinate-clause contains a present-tense form, does not have the two interpretations associated with (4.53). In particular, (4.51a) does not have that reading in which each trip-taking event is subsequent to each calling event. This follows from the fact that the event time evoked by the present is speech time. This is the case even when event time is a variable and speech time represents an 'extended now', as in the case of the habitual present. In order for the main-clause event (i.e., trip-taking) to be seen as subsequent to speech time, that event must be located in the future relative to the speech time. This construal would not, however, be compatible with the primary semantic condition upon the general perfect construction: event time must precede reference time.

The analysis given here provides an account of McCawley's (1981) observations regarding the pair of sentences given as (4.55). The first of these was uttered by Will Rogers; the second was not:

(4.55) a. I've never met a man I didn't like.

b. I've never met a man I haven't liked.

With respect to (4.55a), McCawley comments (p. 86), "[i]n uttering [this sentence], Will Rogers was claiming that as soon as he met any man, he liked him". By contrast, if Rogers had uttered (4.55b), "he would have conveyed only that he ultimately grew to like everyone he met, without indicating whether he took an instant liking to them". In terms of the present analysis, McCawley's intuition about (4.55a) stems from the anaphoric time-

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reference commonly invoked by the preterite. The (negated) existential PrP in the main clause sets up a range of past reference times. The preterite exhibits so-called bound-variable anaphora, like that displayed by the possessive pronoun in the sentence *No woman fully appreciates her mother* (Partee 1984). In (4.55a), the reference time evoked by the preterite in its anaphoric capacity is that at which the state of liking obtains. Hence, the reference times of the meeting events and concomitant liking states are identified. We view the state in question as starting sometime shortly after the event in question, since we know that liking someone is ordinarily contingent upon making that person's acquaintance. However, there is a possible interpretation of (4.55a) in which the state of liking a given person obtains for some period prior to meeting that person. This reading is possible because states have the properties of cumulativity and distributivity: the state predication may subsume the reference time identified with the occurrence of a given meeting event.

In (4.55b), we have the situation schematized in figure 4.4. Here, the meeting and liking events are both evoked by means of existential-PrP assertions. The temporal relation holding between members of each event pair is indeterminate. The reading that McCawley brings out is that which is compatible with the presence of adverb *eventually* or *subsequently* in the subordinate clause: *I've never met a man that I haven't eventually come to like*. McCawley fails to notice, however, the less obvious but equally permissible reading alluded to above: *I've never met a man that I haven't liked (via reputation, etc.) for some time prior*. In this reading, the variable (past) reference time of meeting events anchors anterior phases of liking. In this case, the PrP in the relative clause will probably be interpreted as a continuative perfect, as our paraphrase indicates. However, the relative-clause PrP might also have an existential interpretation: *I've never met a man that I haven't liked on a couple of occasions prior (to the meeting)*.

The variable-time reading of the PrP does not rely upon the presence of clause whose tense provides a 'surrogate' reference point. As shown by (4.56), this reading can be evoked by tenseless clause containing an adverbial of habitual action:

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(4.56) "[They claim that police should have performed] a luminol test, commonly used at crime scenes to show where blood has been." (Austin *American Statesman* 3/5/93)

In (4.56), the reference time associated with the PrP contained in the embedded interrogative clause is a variable ranging over times at which the luminol test is performed. The PrP is this case has a resultative reading: at the time at which a given luminol test is performed, the tester might yield a result enabling the tester to report, "'Blood has been here". A past episode in which blood was present for some period results in each case in the presence of a residue.

Returning to the examples in (4.51), we note that in (4.51b), the PrP denotes a state of aftermath (that of Eastwood's being a family man) which is identified with the 'now' of the narrative. Here, an event (Eastwood fighting the demons of his past) is reported upon during its 'in progress' state. Relativization of a state of affairs to the present of the story world can violate the general rule that perfective situations are incompatible with simple present-tense reporting. In such contexts, activity predicates like *masquerade* appear with simple-present inflection. In plot retellings, as in temporal discourse, (cf. section 1.2.2.4), the (present) progressive denotes perfective situations viewed as background information, while the nonprogressive (present) denotes perfective situations comprising the main events of the narrative. Consider the following contrast:

(4.57) a. In 'Roseanne' tonight, Dan takes an evening job at a men's clothing store and Roseanne gets angry because he has to work on their anniversary.

b. In 'Roseanne' tonight, Dan and Roseanne are fighting about who is to blame for their daughter's elopement.

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In (4.57a), Dan's taking the job and Roseanne's getting angry are presented as two event within the sequence of developments which comprise the story. By contrast, in sentence (4.57b), Roseanne and Dan's disagreement is presented as an overarching temporal setting within which various events, causally related to that situation, will presumably take place. The last sentence is similar to (4.51b), in which Eastwood's fight with the demons of his past is presented as background to a storyline yet to be detailed.

We now come to futurate uses of the PrP, exemplified in (4.12), (4.14) and (4.51c). There are two such usages, as I pointed out earlier. In one use, the PrP finds a 'surrogate reference time' in the time evoked by the futurate present in the conditional protasis. The PrP itself is not the main verb of the subordinate clause. This use is exemplified in (4.14) and (4.51c). In another use, exemplified in (4.12), the futurate PrP (FPrP) is the main verb of a conditional protasis or of a temporal clause introduced by one of the following subordinating conjunctions: *when*, *after* or *before*. The first usage can be reconciled with the panchronic and 'story world' uses: the reference time of the PrP is the time denoted by the present tense, although the present present tense does not refer to speech time. All of these uses are anaphoric, in that they corefer with a reference time evoked by a present-tense predication. In what follows, we will concern ourselves primarily with the second, nonanaphoric, usage, exemplified in (4.12).

In section 4.2.2.1, we observed that in narrative discourse, temporal clauses, e.g., *when*-clauses, signal the introduction of a new reference time, and provide a descriptive characterization of that reference time. [14] In accordance with Partee (1984), we assume that

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[14] Partee (1984) points out that the *when*- or *after*-clause need not introduce a new reference time. It may refer to a time that is temporally included within the time associated with the last-mentioned event. Partee considers the following example:

(a) Mary crossed the street. After she reached the middle of the street, John saw her.

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such clauses denote perfective situations; if they are stative, the stative predication receives an inceptive interpretation. As we noted in section 4.2.2, the class of states amenable to an inceptive intepretation within a *when*-clause includes the state denoted by the perfect. In the sentence *When Harry had finished speaking, he sat down*, the *when*-clause invokes an inceptive event: the beginning of the state of aftermath following the cessation of speaking.

The time of the main-clause event is interpreted as a time which immediately follows the time at which the *when*-clause event occurs. By restricting ourselves to temporal discourse, we exclude from our purview instances in which the reference time introduced by the *when*-clause is the time at which or during which the main-clause event occurs. Among the examples which we will not consider are those discussed by Hinrichs (1986), e.g., *When John crashed the Pinto, he broke his leg*. In this example, the main-clause event is viewed as temporally included in the event denoted by the *when*-clause. In the cases considered here, the *when*-clause has the same meaning as an *after*-clause.

The ordering of main-clause and subordinate-clause event is determined by the lexical content of the temporal subordinator. In the case of *when* and *after*, the main-clause event is located after the subordinate-clause event. In the case of *before*, the main-clause event is located before the event of the subordinate clause. *Before* is nonfactive: it does not require that the situation denoted in the subordinate clause obtain or occur. In some cases, extralinguistic knowledge (i.e., knowledge of what events preclude others) secures an intepretation in which the event denoted by the *before*-clause failed to occur: *Shubert died before he finished his symphony*. In some cases, that situation necessarily occurred: *They left before the sun set*. Partee (1984) motivates the nonfactive nature of *before*-clauses by

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In (a), the *after*-clause evokes a time included within the time in which the street-crossing event occurred. Partee suggests that such examples do not exemplify the linear-order mode characteristic of temporal discourse, but a different mode, which we will refer to as 'elaboration mode'.

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reference to the event orderings signaled by such clauses in temporal discourse. She looks at three-sentence discourses like the following:

(4.58) Mary turned the corner. Before John saw her, she crossed the street. She hurried into a store.

(4.59) Mary turned the corner. When John saw her, she crossed the street. She hurried into a store.

In (4.58-4.59), she argues, the *before*-clause event "does not end up linearly ordered with the other events of the discourse, while the event...of the...*when*-clause [does]". How does this work? She observes that in both discourses the first reference time introduced following r_0 (the time of Mary's turning the corner), is the time at which Mary crossed the street. This is a time just after the time introduced by the *when*-clause in (4.59). Therefore, in (4.59), the street-crossing event is located after the event in which John saw Mary. In both texts, the next-introduced reference time, the time of the store-entrance event, updates the reference time associated with the *main clause* of the second sentence. That is, the temporal representation constructed by the reader orders the store-entrance event immediately after the street-crossing event. In the case of (4.59), Partee argues, the linear order is continued, since the main-clause event (the street crossing) is the last event so far. In the case of (4.58), however, the temporal order obtaining between the event of John's seeing Mary and the store-entrance event is indeterminate: the event of John's seeing Mary does not figure in the temporal ordering inferred by the reader. Partee observes (p. 264), "[s]ubsequent reference times follow r_3 [the time of the store-entrance event], since it is the reference time that moves the narrative linearly forward and [the seeing event] is left 'dangling'". Therefore, the reader has no way of knowing whether the event of the *before*-clause actually happened or not. The nonfactivity of *before*-clauses will concern us when we consider Hornstein's (1991) claim that all *before*-clauses containing a

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PrP-form main verb denote counterfactual (i.e., nonactualized) situations. Let us now return to the interpretation of the FPrP in conditional protases and futurate subordinate clauses.

One interpretive feature that we touched on above is the following: FPrP and futurate present are semantically equivalent in the subordinating contexts at issue. For example, (4.60a) has a reading identical to that of (4.60b):

(4.60) a. When you finish, we'll have a party for you.

b. When you've finished, we'll have a party for you.

This equivalence can be attributed to the aforementioned interaction of the perfect and a temporal subordinator. In (4.60b), the perfect indicates a state of aftermath following the occurrence of an event. The *when*-clause evokes an inceptive interpretation of a state. The inception of the state is equated with the time of culmination of the R-situation (the event denoted by the participial complement). The situation denoted by the main clause must occur (or begin) at a time just after the time of the inceptive event denoted by the subordinate clause. The two sentences in (4.60) are equivalent in the following respect: the *when*-clause of (4.60b) evokes the inception of a state of aftermath following an event (e.g., finishing), while that of (4.60a) evokes the culmination of that same event. These understandings amount to the same thing.

Are all properties of the FPrP, as it is used in sentences like (4.60b), predictable from those of the PrP *per se*? Binnick (1991:278), following Nerbonne (1984), proposes collapsing the semantic representations of PrP and FPrP by presuming that the present time with which reference time is equated "should potentially include an indefinitely great chunk of the future as well". That is, event time necessarily precedes reference time, but reference time can be no earlier than the present. This analysis creates a situation in which FPrP and FuP overlap, since the latter also indicates anteriority of a future event with respect to a

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future reference point. The equation of FPrP and FuP has the following consequence: the FPrP represents a *will*-less FuP analogous to the *will*-less future which appears in conditional protases and futurate temporal clauses (**When I will meet him*, etc.). Given the fact that futurate *will* in general is excluded from the contexts in question, we may describe the FPrP as the representative of a neutralized PrP-FuP contrast. [15]

In what follows, we will note a number of interpretive constraints which are unique to the FPrP, and which consequently undermine that account in which the PrP is vague, insofar as it evokes a reference time which ranges over present and future values. We will eventually expand upon these observations by considering the general question of whether nonpresent uses of the PrP constitute idiosyncratic constructions.

The interpretation of the FPrP in futurate temporal clauses and conditional protases is highly constrained. We do find each of the three PrP readings in these contexts, although FPrPs appearing in the conditional protasis do not have unequivocal future time reference. The sentences in (4.61) are intended to represent resultative, existential and continuative FPrPs, respectively:

(4.61) a. If you have broken the seal, we will not exchange it for you.

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[15] The prohibition against use of the FuP in conditional protases, like that against use of the future in this context, does not characterize languages like Latin, in which the FuP is apparently in free alternation with the future in the protasis. Note the following examples, in which Latin sentences are given literal translations:

(a) Si id faciet, prudens erit.
"If he will do it, he will be wise."

(b) Si id fecerit, prudens erit.
"If we will have done it, he will be wise".

In Latin, future and FuP are synonymous in the protasis context, just as futurate present and FPrP are synoymous in this context in English.

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b. If the Jehovah's Witnesses have come to your door five times, you can get a restraining order.

c. If you've been in pain for several days, we will want to have you come in again.

The sentences given in (4.61), unlike versions containing the subordinators *when* or *after*, are ambiguous. On one reading, these sentences are dubitative factive conditionals; this reading is evoked by the presence of *in fact* following the *if*. Thus, for example, a speaker may use (4.61b) to signal uncertainty about whether the situation denoted by the protasis in fact obtains at present. The situation in question is the state of aftermath following five or more visits by the Jehovah's Witnesses. In this case, the PrP appearing in the protasis has a reference time anchored to the time of speech. On another reading, the PrP appearing in the protasis represents an FPrP. In this case, the speaker may use (4.61b) to convey information to someone who has just moved into the neighborhood, and would therefore not be in a position to have received any visits at all from the Jehovah's Witnesses. The accumulation of five visits is a state of affairs predicated of some future interval.

According to Binnick (1991), the FPrP requires that event time be in the future relative to speech time. This constraint does not, however, attach to the FPrP in a conditional context. Consider the following example:

(4.62) { When / If } Harry has conquered the pole, he will get a parade.

When the factive subordinator *when* is used, the event denoted is necessarily a future event. However, when the subordinate clause is a conditional protasis, the pole-conquering event may be seen as past relative to speech time, so long as confirmation of that event's occurrence will happen at some future time. In the latter case, the reading associated with

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the FPrP resembles the 'epistemic' use of the FuP discussed in chapter three, footnote 1. The fact that the *when*-clause does not have the epistemic reading can be attributed to the general interpretive conditions upon such clauses, outlined above. We presumed, in accordance with Partee (1984), that a *when*-clause in narrative discourse (a) updates the reference time to a later point, and (b) identifies the inception of the main-clause denotatum with that point. Since, in the case of the perfect, the phase of aftermath starts at the same time that the participial event (or R-situation) culminates, event time must be later than the baseline reference time: in this case, the present. Therefore, the constraint that event time follow speech time falls out from the manner in which the FPrP interacts with the factive subordinator *when*.

Another apparent interpretive constraint upon the FPrP is more difficult to attribute to the surrounding constructional context: FPrPs interpreted as existential or continuative perfects do not readily accept *since*-adverbial expressions. Consider the examples in (4.63):

(4.63) a. If you have been studying since summer, you will pass.

b. ?When Harry has been fired from three jobs since graduating, he'll realize how tough it is out there.

Sentence (4.63a) cannot felicitously be uttered by someone in, say, the spring, to refer to a time in the fall at which a phase of studying since summer has elapsed. Sentence (4.63b) is peculiar if one takes it to evoke a future event (that of Harry's graduation) which represents the lower bound of a time span. The upper bound of this span is a future point further removed from the present. We might explain these data by positing the following restriction upon *since*-adverbial expressions: the reference time, which follows the time point evoked by the argument expression of *since*, must be the present. However, the claim that there exists such a restriction is falsified by examples in which a *since*-adverbial co-occurs with the PaP: *He had been sick since eating the tainted veal.* This forces us to posit a

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narrower restriction: the upper boundary of the interval encoded by the *since*-adverbial cannot be a future point. This restriction cannot be upheld, in light of the fact that the FuP welcomes *since*-adverbials referring to a future point:

(4.64) The good china will be out. The slipcovers will be on. Mom will have cleaned the house several times since my arrival.

Sentence (4.64) has an interpretation in which the speaker's arrival at Mom's house will take place in the future, and the evoked reference point (that point at which the good china is out, etc.) is a future time subsequent to the arrival time. Since there is no general explanation for the peculiarity of (4.63b), the failure to accept *since*-adverbial expressions appears to be an idiosyncratic property of the FPrP. The presence of this property suggests that the FPrP and FuP represent distinct constructions.

We also have reason to regard the FPrP as a construction distinct from the PrP. This argument pertains to the adverbial specification of event time. As we saw above, such specification is foreclosed in the case of the PrP, when it has a resultative reading. By contrast, the FPrP, when construed as a resultative perfect, is not bound by the time-specification restriction. In the following example, the time adverbial *at 12:02* is meant to refer to the event time (the time at which the area is secured):

(4.61) After our agents have secured the area at 12:02, [we will signal for the motorcade to come through.]

At the future reference time introduced by the *after*-clause, the speaker could not report: **Our agents have secured the area at 12:02*. That is, where reference time and speech time are equated, the time-specification constraint is operative. Otherwise, it is not. This example therefore suggests that the PrP form is not vague with respect to present and

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futurate readings. The PrP does not evoke a 'nonpast' reference time, as suggested by Nerbonne (1984), but a present reference time.

Thus far, we have considered the meaning of the FPrP without considering the way in which the meanings of the various temporal connectives—*before*, *after* and *when*—contribute to the representations of sentences containing FPrP-form subordinate clauses. Earlier we presumed, in accordance with Partee (1984), that the *when* and *after* connectives are essentially synonymous in narrative discourse. What of *before*? All three connectives are logically equivalent, in that 'after A, B' and 'before B, A' have the same truth conditions. It is Hornstein's contention, however, that a FPrP appearing in a *before*-clause necessarily receives a counterfactual interpretation.

Hornstein's claim is motivated in part by a theory-internal consideration—his desire to explain apparent exceptions to the proposed 'constraint on derived tense structures'. In Hornstein's system of representation, the semantic integration of the meanings of temporal clause and main clause is represented as the identification of the R and S points evoked by the two clauses taken individually. That is, semantic composition is represented as the linking of time points on two tiers, where the two tiers represent the temporal schemata underlying the main clause and the subordinate clause. This linking is constrained in the following way: once the R and S points of the two representations are identified, the two E points must not be reordered with respect to those points in the two separate representations. Let us examine the derived tense structure proposed for the sentence *John will escape before he has served out his term*. The structure in question is given as (4.62):

(4.62)

	S	R,E_1	= John will escape
E_2	S	R	= He has served out his term

In (4.62), one temporal schema is placed above the other in order to represent the 'integration' of the meanings of main clause and subordinate clause. The two tiers are

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intended to represent a single time line. Association (i.e., identification) of time points in the two separate clauses is shown by 'stacking' of the time points: the R points and the S points of the two clauses are associated, i.e., identified. Notice that associating the R points and the S points of the two representations 'destroys' the default identification between R and S in the representation of the (subordinate-clause) PrP.

In (4.62), there are two distinct events, the earlier event (John's escaping) being denoted by E_1. As it stands, (4.62) locates E_1 at a time *following* E_2 (John's serving out his term). Were we to reorder the two events in (4.62), we would violate a constraint on derived tense structures: the linear order of points in the derived tense-structure must be the same as that in each basic tense-structure. As Hornstein points out (p. 71ff), however, (4.62) conflicts with the semantic requirements of the connective *before*: the event denoted in the *before* clause must be prior to that denoted by the main clause. Hornstein goes on to argue that in this case, rather than yielding an unacceptable sentence, the derived tense-structure receives a counterfactual interpretation: John did not in fact serve out his prison term. This counterfactual interpretation is possible because, as noted earlier, *before* does not presuppose the truth of its complement.

The claim that a FPrP necessarily has a counterfactual interpretation in a *before*-clause is undermined by examples of the following kind, which simply appear peculiar: ??*We will clean the house up before Harry has come home*. However, such examples may be anomalous simply because it is difficult to imagine that the first act may obviate the second, as in (4.62). That is, insofar as it is difficult to adduce a counterfactual interpretation of the *before*-clause, such sentences are anomalous. Nevertheless, there are acceptable sentences akin to (4.62) in which the possibility of a counterfactual interpretation is extremely remote: *They will resolve their dispute before the sun has set*. Here, since we know that the sunset cannot in general be preempted by any action, we presume that it will take place. Therefore, *before*-clauses like that of (4.62), are counterfactual only insofar as context leads one to prefer this interpretation.

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The foregoing observations involved the use of the FPrP in particular temporal clauses. A further observation, made by McCawley (1981), concerns the use of the FPrP in relative clauses, exemplified in (4.14). This example is repeated below:

(4.14) If I ever meet a woman who has read *War and Peace* five times, I'll ask her to marry me. (= McCawley's (17a))

In this use, the FPrP is anaphoric: it depends for its reference time upon the time evoked by a present-tense predication: the futurate present. McCawley observes that not all futurate presents can serve as reference time for a present perfect. He gives the following example (= McCawley's (18)):

(4.63) On Friday the Pirates play a team that has been in last place for two weeks.

With respect to (4.63), McCawley points out (p. 89), "a present perfect occurs, but has the present time and not Friday as its reference point, i.e., two weeks has to be the time that the unnamed team has been in last place as of now, not the time that they will have been in last place as of Friday". That is, the present which evokes a scheduled future action cannot provide the surrogate reference point with which the reference time of a (continuative) FPrP is equated. Given that this is the case, we cannot be content with an analysis of this FPrP type which states that its reference time is the time of a futurate present contained in a higher clause. We must specify that the relevant future reference-time is provided by a futurate present appearing in one of the following subordinate-clause contexts: a conditional protasis (as in (4.14)), a temporal clause introduced by *when*, etc. or an *until*-clause (e.g., *They will search until they find someone who has seen the suspect.*). McCawley's observation in (4.63) suggests that our description of the relative-clause FPrP must

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mention a particular variety of futurate present. Therefore, it appears that the anaphoric FPrP requires its own constructional statement.

The question of how many, if any, nondeictic PrP constructions the grammarian must posit invokes a more general problem which arises when we examine deictic expressions, both spatial and temporal. These expressions evoke a reference point, in time or space, that is identified with some feature of the speech situation—the location of the speaker or the time of the discourse. In terms of Partee (1991), these expressions contain a context-sensitive variable over times, etc. This variable is fixed when it is identified with the time of the utterance, the location of the utterance event, or the speaker *qua* locative reference-point. The question is: can this context sensitivity be closed off? Many deictic expressions license readings in which the reference point is detached (or 'shifted') from its anchor within the immediate context of utterance and is free to assume either another value or a range of such values (in cases of bound-variable anaphora). Fillmore (1971) observes, for example, that the English verb *come*, which ordinarily evokes a destination equated with the speaker, may in certain contexts be used to refer to motion toward the addressee (as in, e.g., *Could I come over?*). In some cases of this kind, the speaker may be said to assume the addressee's point of view in order to express empathy or create a sense of solidarity between the interlocutors.

Other cases of shifting involve the potential for anaphoric binding of the contextual variable. In the realm of spatial deixis, this may involve a prepositional expression that—in the absence of a prepositional complement encoding a 'source' argument—will evoke a source identified with the location of the discourse. Partee (1991) notices examples of bound-variable anaphora like the following:

(4.64) Every man who stole a car abandoned it fifty miles away.

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With respect to this example, Partee notes (p. 444), "*Fifty miles away* involves adverbial anaphora that requires an anchor: fifty miles from where? The most natural interpretation is fifty miles from the location of the (quantified) stealing event". One can imagine analogous temporal examples in which a time variable evoked by an exponent of temporal deixis is co-construed with a temporal variable evoked by a universally quantified event. In the following example, the temporal expression *ten minutes before* is interpreted with respect to a variable rather than deictic temporal reference point:

(4.65) Whenever I run down there, they have usually closed ten minutes before.

The variable reference point ranges over the times associated with the various events of 'running down there'. This reference point is the reference time of the nonpresent PrP appearing in the main clause. Note that this PrP, a resultative perfect, is grammatically distinct from an otherwise identical form evoking present-tense time reference. At the point of one occasion of 'running down there', the speaker would not utter the sentence **They have closed ten minutes before*. Such a sentence would be ruled out by the time-specification constraint attached to the resultative PrP.

For our purposes, the primary question that arises with respect to these examples is the following. As we have seen, a given deictic expression may permit the evoked contextual variable to be identified with a spatial or temporal point other than that provided by the immediate context of the utterance. Is this fact a fact about grammar, or can it instead be attributed to the general ability of the conceptualizer to perform perspectival shifts? In fact, these positions are mutually compatible. The capacity of the conceptualizer to assume an alternate perspective upon a given spatio-temporal scene is mediated by grammar. If it were not, we would predict that any given deictic element, in its various cross-linguistic manifestations, licenses closure of context sensitivity. Thus, as Fillmore (1971) observes, the potential for shift associated with the verb *come* in English is not exploited in languages

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containing an otherwise comparable deictic motion verb (e.g., Japanese). Such data suggest that the shifted construal of a given deictic expression is licensed as a construction of the grammar.

Cross-linguistic data aside, it is apparent that in within a language, there is a restricted set of grammatical contexts in which a shift of a given type can occur. Furthermore, as our exploration of the FPrP suggests, the grammatical restrictions which characterize elements bearing the shifted intepretation are not predictable from restrictions upon those same elements operating in their deictic capacity.

Nonpresent uses of the PrP are generally restricted to subordinate-clause contexts. [16] In particular, as Binnick notes (1991:278), "English does not allow the futurate perfect [FPrP] in main clauses: !*Susan and John have married by the time you arrive* cannot be a futurate perfect". As we have seen, the subordinate-clause contexts which welcome the nonpresent PrP include *whenever*-clauses in sentences representing panchronic generalizations, relative clauses in, e.g., descriptions of participants in the story-world present and *when*-clauses. Since it is restricted primarily to subordinate contexts, the nonpresent PrP differs from special uses of the present tense in which the present evokes: the future (in the case of the present of scheduled future event) and the past (in the case of the historical present). For example, we find the present used to denote a scheduled future event in main clauses like the following: *Susan and John get married on Tuesday*. The restriction which constrains the FPrP to subordinate-clause contexts is a feature of English grammar, insofar as it is not present in all languages licensing a futurate reading of the PrP. For example, as Binnick (p. 281) argues, the "the syntax of German...allows the futurate

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[16] There is some question as to whether the PrP used in plot retellings can appear in main-clause assertions. Examples like (a) appear acceptable to most:

(a) In the movie 'Olivier, Olivier', a runaway has returned to his family after many years of wandering. His parents suspect that he is in fact an impostor.

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perfect more freely than does English". He cites the following German example, from the Duden *Grammatik*:

(4.66)	In	einer	halben	Stunde	habe	ich	den	Brief
	In	a	half	hour	have:1sg:pres:indic	I	the	letter
	geschrieben.							
	write:pastpart							

This example, Binnick notes, is glossed as *...werde ich den Brief geschrieben haben* '(in a half hour) I shall (*werde*) have written the letter'. What is necessarily expressed in English by the FuP is apparently expressible in German by means of a main-clause FPrP.

We are led to the following conclusion: for a learner of English, knowledge of the grammatical and interpretive constraints attached to the PrP does not entail knowledge of the syntactic and semantic conditions under which the PrP evokes a reference time other than the present of the utterance event. Mastery of nondeictic uses of the PrP is mastery of a component of grammar, analogous to acquisition of 'special' uses of the present, in which the latter evokes temporal relations other than full temporal coincidence of speech time and situation time. Just as the learner of English must discover that the present can evoke future-time reference in a conditional protasis, so that learner must discover that the PrP can evoke future time reference in that same context. Similarly, the learner must ascertain that the PrP can indicate anteriority with respect to a variable reference point, in the same way that the learner acquires a reading of the present which refers to a range of times—past, present and future—at which a given situation obtains.

Again, we must distinguish between those linguistic facts which are predictable from some other form of grammatical knowledge, and those which are merely motivated on the basis of that knowledge. While knowledge of the PrP is certainly a prerequisite for acquisition of nondeictic uses, the former does not simply follow from the latter. We will

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represent the nondeictic uses as semantic extensions of the general PrP construction. That is, we will relate the general PrP construction to the nondeictic uses of the PrP by means of an inheritance link, denoting a type of perspectival shift. This link is posited in order to encode the speaker's knowledge that the nondeictic readings represent specialized uses of the PrP. These uses are specialized insofar as they are restricted to a limited set of constructional contexts.

Among nondeictic uses of the PrP, we will distinguish two general constructions: (a) the FPrP found in *when*-clauses, etc., and (b) the nondeictic uses which take as their reference point a 'surrogate present', i.e., a present tense or PrP which has a reference time other than speech time. The latter construction has two subtypes: that nondeictic PrP which refers to a variable time evoked by a habitual present or existential PrP, and that nondeictic PrP which refers to a temporal constant evoked by (a) a futurate present (e.g., within a conditional protasis) or (b) a story-world present. We saw in the case of the temporal-clause FPrP (e.g., *When you have seen him*, etc.) that the presence of parochial constraints upon grammar and meaning vitiates an analysis in which this form is regarded as (a) a *will*-less FuP, akin to the *will*-less future appearing in futurate temporal clauses, or (b) a contextually computed understanding of a vague PrP construction, whose reference time is equated with 'nonpast' time rather than present time.

4.3. The Nonfinite Perfect

The perfect complex, consisting of the auxiliary *have* plus a past participle, indicates past-time reference in two primary nonfinite contexts: participles and infinitives. In the former category, we include gerundial expressions representing (a) nonfinite circumstantial clauses (e.g., absolutives) and (b) participial relative clauses. In the latter category, we include the bare-stem infinitives required by modal verbs. Examples of the two contexts are given in (4.67-4.68):

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(4.67) a. With her job-hunting attempts having failed last semester, she decided to stay in school another year.

b. Anyone having left before the end of the exam will be questioned.

(4.68) a. The police believe the suspects to have left the area yesterday.

b. Harry must have been here a minute ago.

In these examples, the perfect indicates the anteriority of an event to a reference time that is not necessarily equated with the present. In (4.67a), for example, the reference point is identified with the (past) time at which she made her decision. In (4.68a), the reference point is equated with the present time—the time at which the police hold a particular belief. Since the location of reference time is not specified by the construction, the nonfinite perfect (NFP) resembles the general perfect construction. However, sentences like (4.67a) demonstrate that the NFP differs from both the PaP and PrP in the following respect: the NFP allows deictic punctual past-time adverbs (e.g., *last semester*). The fact that adverbial co-occurrence restrictions upon the NFP differ from those associated with the general perfect construction leads us to reject an account like McCawley's, in which the NFP is regarded as an exemplar of a general perfect construction.

Another difficulty inherent in any attempt to reconcile the NFP with the general perfect relates to the analysis of the bare-stem infinitive which encodes past-time reference in predications headed by modal verbs. This infinitival perfect in this context does not necessarily express anteriority with respect to the time evoked by the modal verb. In order to see this, we must first look more closely at some unproblematic cases.

In general, a modal predication—whether interpreted relative to a socio-physical or epistemic model (cf. Sweetser 1990, Langacker 1991)—establishes a temporal reference point at which the (a) the obligation, permission, or ability to perform an act is in force or (b) the conditions which enable one to reason about some set of circumstances (past, present or future) obtain. Thus, for example, sentence (4.68b) evokes a present reference

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point at which the speaker is strongly inclined to believe that a particular event took place in the past (a minute ago). The reference point established by the modal may be in the past, as in (4.69):

(4.69) When I arrived, I felt she might have been there.

In (4.69), the reference point evoked by the modal is that described by the *when*-clause. At that time (i.e., the time of arrival), the speaker may have reported *She may have been here*. Given that the FuP can be analyzed as a modal element (*will*) taking a perfect-form complement, the analysis given for (4.69) can also be applied to certain back-shifted FuP forms. An example is given in (4.70):

(4.70) By the time anybody reported Lady Lucan missing, she *would have been buried* at sea. —*Vanity Fair* 5/93

In (4.70), the past point evoked by *would* is prior to a future-in-past reference point: the time at which Lady Lucan is reported missing. The latter time is subsequent to the event of burial at sea. The past time evoked by the narrator (the time at which Lord Lucan is formulating his murderous plan) 'stands in' for speech time in the formula E...S...R. If (4.70) were to appear in a present-tense narrative, the sentence would presumably take the following form:

(4.71) By the time anyone reports Lady Lucan missing, she will have been buried at sea.

As Langacker (1991) argues, however, one cannot maintain a compositional account of past-tense modals in which, for example, *might* has an underlying structure past+*may*.

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Forms like *should*, *would* and *might* have subjunctive readings rather than future-in-past readings in many cases. Further, not all readings (epistemic, deontic, etc.) attach to both present and putative past-tense forms. For example, *can*—as opposed to both *could* (and its negation *cannot*)—does not have an epistemic reading in sentences like: ??*This can be the right exit.* Furthermore, the interaction of the modal verb and its perfect-form complement may not be compositional. A modal+*have* predication may not encode anteriority of the complement-verb denotatum to the reference point evoked by the modal head verb. Sentence (4.72a) is triply ambiguous; the three readings are given as (4.72b-d):

(4.72) a. Harry must have been sleeping in the bed.

b. At that time, it was necessary to conclude that Harry was sleeping in the bed.

c. At this time, it is necessary to conclude that Harry was sleeping in the bed for some period prior to now.

d. At that time, it was necessary to conclude that Harry had been sleeping in the bed for some period.

Under the reading given as (4.72b), as Hornstein points out (1990:36), "we construe the modal+*have* structure as the realization of the past tense of [the] modal". That is, the conditions 'imposing' the conclusion that Harry is sleeping in the bed exist at the same time that Harry's presence obtains. In (4.72b), the perfect form does not indicate anteriority with respect to the reference point denoted by the modal, as it does in (4.72c). Interpretation (4.72b) is possible only because the participial verb (*sleep*) is imperfective, and therefore capable of overlapping the reference point provided by the modal. In (4.72d), again, the modal is construed as past, even though the only formal exponent of past-time reference is the perfect-form infinitive. Interpretation (4.72d) evokes a past-in-past time relation: the episode of Harry's having slept in the bed occurred prior to the past time

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evoked by the modal. In (4.71b), the perfect-form complement in some sense serves to compensate for the fact that the modal *must* lacks a past-tense form. The past time reference is 'propagated' from the perfect-form infinitive to the modal head.

Sentences like the following must be given a reading akin to that in (4.71b):

(4.73) I could have been a contender. —Marlon Brando, "On the Waterfront"

Here, the Brando character asserts that in the past, he had the ability to compete. The assertion is interpreted as a counterfactual assertion, by virtue of the presence of *could have*: as a matter of linguistic convention, the distal form of the modal (a past-tense modal accompanied by a perfect-form complement) encodes the speaker's judgement that the state of affairs in question (his being a contender) does not obtain at present (cf. section 4.1.2 and Fleischman 1989). Upon hearing (4.73), the speaker will also likely make the judgement that the speaker was not a contender *in the past*. This judgement appears to be a quantity-based inference: if the speaker in fact *was* a contender in the past, it would be uninformative for him to assert merely that he had the *ability* to compete in the past. Crucially, (4.73) is not interpreted as an assertion that that in the past, the speaker was capable of *having been* a competitor. The ability to perform a particular act or maintain a particular state entails the futurity of the act or state relative to the (modal) reference point. Potentiality entails futurity, in that a potential situation is one with some likelihood of future occurrence. For example, my assertion that I can dance the fox trot evokes a time in the future at which the predication *I dance- the fox trot* is satisfied—whether or not there are *past* instances in which that predication was satisfied. Therefore, the act of which an actor is capable cannot be a past act relative to the time at which capability is computed. Therefore, the perfect-form infinitive cannot be construed as denoting an action anterior to the time evoked by the modal reference point.

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In sum, the perfect-form infinitive which appears in modal predications qualifies as a construction distinct from the finite perfect, in its various manifestations, and as distinct from other nonfinite perfects, including that encoded as a *to*-infinitive. Our evidence for the latter claim arises from the fact that the bare-stem perfect infinitive need not indicate anteriority of the denoted event relative to the reference point established by the (past or present) modal predication. This infinitive can signal that the modal predication, although lacking a modal head verb which represents a morphological past, is to be relativized to a past interval. In this case, the situation denoted by the perfect infinitive may overlap the modal reference point (as in (4.72b)), precede it (as in (4.72d)) or follow it (as in (4.73)). In the second case, the perfect evokes past-in-past time reference.

In general, the arguments given in this section uphold the validity of that approach in which the perfect system is regarded as a network of related constructions rather than as a series of paradigmatic oppositions interpreted via a compositional semantics. As we have seen here, the nonfinite perfects, particular the bare-stem perfect infinitive, have grammatical and interpretive features distinct from those attributable to the various finite perfects.

4.4. Conclusion: The Network

Figure 4.5 gives a schematic representation of the perfect system, and the inheritance links which relate constructions within that system:

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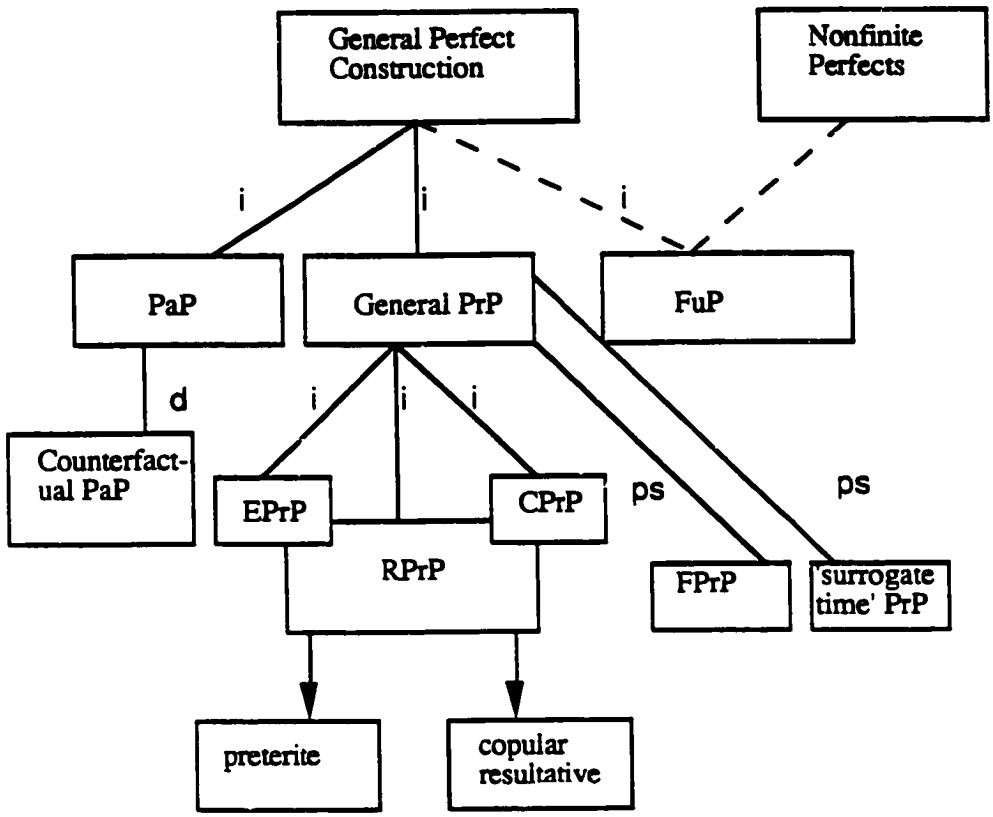


Figure 4.5: ***The Perfect System***

In figure 4.5, inheritance links are indicated by solid verticle and diagonal lines. Instance links are indicated by the abbreviation *i* next to the link in question. Two dashed lines are used to indicate that the FuP is an instance of both the general perfect construction and the nonfinite perfect (i.e., the modal past).

The presumption that, synchronically, one of two meanings of a given form is an extended sense is justified when the interpretation at issue is licensed only in a limited set of constructional contexts. As mentioned earlier, we use two links to represent two general patterns of semantic extension. One link of this type is a *distality link*, indicated here by the abreviation *d*. This link relates the PaP to the identical form which encodes a counterfactual past. The distality link represents the grammatically sanctioned pattern of semantic

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extension whereby exponents of past-time reference are used to encode the speaker's epistemic stance toward some propositional content. In section 4.1.2, I argued that in certain counterfactual contexts, the PaP encodes the speaker's assessment that the denoted state of affairs failed to obtain or occur at a past point, and is therefore not a verifiable part of history.

Another pattern of semantic extension is perspectival shift, indicated here by a link accompanied by the abbreviation *ps*. The type of perspectival shift at issue here is that in which the spatio-temporal reference point of a deictic expression is not anchored by the speech scene. In this chapter, we focused on cases in which the PrP is used to evoke a reference time other than speech time. In section 4.2.3, I argued, in accordance with Fillmore (1971) that the potential for closure of context sensitivity is mediated by grammar. Shifted interpretations are conventional. Not all deictic elements license 'shift', and those which do may license it only in particular grammatical contexts, e.g., futurate temporal clauses. Furthermore, the shifted expression may have grammatical properties that are not predictable from properties of the nonshifted element. (Cf., in this regard, the discussion of the FPrP versus resultative PrP.)

We have looked at two general contexts where the PrP licenses an interpretation in which reference time is decoupled from speech time. The first context is that in which the PrP (*qua* FPrP) has future time-reference in a conditional protasis or other futurate temporal clause. The second context is that in which the reference time of the PrP is a 'surrogate speech time' provided by a main-clause present tense. This present tense is interpreted as evoking a time other than speech time, e.g., a variable time in the case of the habitual present.

The final type of link exemplified here is that which I referred to in the previous chapter as an *opposition link*. This link is indicated by an arrow rather than a line connecting two constructions within the network. This link does not represent an inheritance relation, but a relation of near synonymy, in which the synonyms contrast by virtue of distinct

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grammatical or discourse-pragmatic restrictions. As indicated, one such contrast involves the copular PrP and resultative PrP. In this contrast, the forms represent privative opposites. The resultative PrP may be used to encode a resultant state that is either (a) evoked by the Aktionsart of a transitive or intransitive telic participial VP or (b) computed on the basis of extralinguistic context. The copular resultative, however, accepts only intransitive telic participial VPs, and cannot evoke an indeterminate result state. Furthermore, as we noted above, the copular construction differs from its near synonym in disallowing the presence of a goal complement in the participial VP. As we saw in the last chapter, this restriction appears to be English specific: it does not characterize the analogous construction in a closely related language, German. The restriction on complementation may have arisen to meet the demands of contrast accentuation, a force in diachrony described by the Principle of Ecology (cf. chapter three).

Another privative opposition involves the resultative PrP and the preterite. This opposition involves a use condition: the resultative PrP is unavailable in contexts in which the event proposition denoted represents pragmatically presupposed material. The preterite is available in such contexts, as well as in those contexts where the past interval evoked has no 'antecedent' in the discourse. This opposition will be discussed in detail in the next chapter.

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Chapter Five: Interpretations of the Present Perfect

In chapter three, we examined a truth-functional analysis of the PrP in which the auxiliary is a sentential operator (*Have*) that scopes a context-free past-tense sentence. The truth of the resulting proposition is evaluated for the present interval. For example, (5.1) is represented as in (5.2):

(5.1) Harry has finished.

(5.2) Pres $_{(w,i)}$ [Have [λwλi Past $_{(w,j)}$ (Harry finish)]]

In (5.2), the context variables of the past-tense operator have been abstracted, so that the (past) tense in the scope of the perfect operator *Have* is context free: the time *i*—the reference point with respect to which anteriority is computed—is not anchored to the time of the utterance event. By contrast, the tense operator immediately scoping *Have* is context sensitive: it is anchored to the time of the utterance event. I argued in chapter one that the perfect performs a stativizing function: a perfect-form sentence allows the speaker to encode the occurrence of an event at a time *t-1* by asserting that a contingent state obtains at time *t*. Accordingly, (5.1) represents a present-tense stative predication: the state is that of Harry's having finished (Herweg 1991a,b).

As we saw earlier, the representation given in (5.2) is interpreted in accordance with truth conditions requiring that the argument proposition be true somewhere within a present-contiguous interval or 'extended now':

(5.3) *Have* (A) is true in M relative to (*w*, *i*) iff there is a subinterval *j* of *i* such that A is true in M relative to (*w*, *j*). (Richards 1982)

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By contrast, in the definition of the tense operator *Past*, the intervals *i* and *j* are interpreted as instants: the time of evaluation *i* does not include the time *j*, at which the argument proposition holds. Richards' definition of *Past* is given in (5.4):

(5.4) *Past* (A) is true relative to *i* iff there is an interval *j* earlier than *i* such that A is true relative to *j*.

Under this view, what distinguishes the PrP from preterite is that, in the former case, the argument proposition must be true somewhere within the present interval. In the latter case, the argument proposition must be true at an interval which is prior to the present moment; this interval does not overlap with or subsume the present moment.

The truth-conditional definition of the PrP given in (5.3), while a useful point of departure, is inadequate. In chapter three, we saw that the definitions in (5.3) and (5.4) do not capture the meaning difference seen in contrast pairs like (5.5):

(5.5) a. I have willed my fortune to Greenpeace.

b. I willed my fortune to Greenpeace.

There seems to be no reason to presume that (5.5a) expresses an event proposition which is true somewhere within an interval whose upper boundary is now, while (5.5b) does not. The presumed meaning of (5.5a), in which a single event of bequest occurred at a specific point in the past, is not compatible with expressions like *before*, which denote a general present-contiguous past interval. The definition given in (5.3) does not capture the fact that sentences like (5.5a) are interpreted in a way that makes them synonymous with sentences like (5.5b): a single event occurred at some point prior to now.

Furthermore, (5.3) does not enable us to account for the array of PrP interpretations which we discussed in the preceding chapters. In this chapter, we will investigate the

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proposal that the PrP is ambiguous with respect to these interpretations. These readings will be represented by means of an eventuality-based temporal logic like that proposed by Parsons (1990), augmented by 'provisos' representing conventional implicata. I will presume that each of these readings represents a distinct grammatical construction, i.e., a conventionalized pairing of form and meaning. The readings to be examined were introduced and briefly described in chapters three and four. These are the three primary readings distinguished by McCawley (1971). They are exemplified and paraphrased in (5.6):

(5.6) a. We've been sitting in traffic for an hour. (universal/continuative)
A state obtains throughout an interval whose upper boundary is speech time.

b. We've had this argument before. (existential/experiential)
One or more events of a given type are arrayed within a present inclusive time span.

c. The persons responsible have been fired. (resultative)
The result of a past event obtains now.

In chapters three and four, I claimed that the PrP, although formally parallel to past and future perfects, has semantic, grammatical and discourse-pragmatic properties which distinguish it from the other perfect forms. I argued, therefore, that we must reject the compositional semantic account offered by Klein (1992), in which the meanings of past, present, and future perfects are reducible to the semantic contribution of the particular auxiliary tense and the anteriority relation expressed by the participle. We saw that certain grammatical characteristics of the PrP "cannot be componentially explained from a semantic point of view" (Richards 1982.:101). One such characteristic is the constraint barring 'definite' past-time adverbs, exemplified in (5.7):

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(5.7) Harry has joined the navy (*in 1960).

(5.8) [It was 1972.] Harry had joined the navy in 1960.

Sentence (5.8) demonstrates that this constraint does not characterize the PaP. In chapter three, we examined two attempts to provide a general explanation for the grammaticality facts exemplified in (5.7-5.8). There, we examined Klein's (1992) P(osition)-Definiteness Constraint, which states that event and reference times cannot simultaneously be fixed to specific intervals in a given assertion. Since, in the case of the PrP, reference time (R) is always fixed via identification with speech time, adverbial description of event time (E) is necessarily barred. We saw, however, that PaP-form sentences like (5.8) are problematic for Klein's account. Both E and R are adverbially specified: R is 1972 and E is 1960—yet (5.8) is acceptable. Examples like (5.7-5.8) suggest that the P-Definiteness Constraint lacks general applicability. Such evidence substantiates a view like that of Heny and Richards, in which the restriction exemplified in (5.7) is an idiosyncratic feature of the PrP.

As we saw in chapters three and four, certain grammatical idiosyncrasies of this type do not attach to the PrP *simpliciter*. Certain constraints attach to one reading: the resultative reading (5.6c). These constraints amount to restrictions upon the extent to which one can elaborate upon circumstances surrounding the past event denoted by the VP complement (i.e., the R-situation). The restrictions to be considered in this chapter are as follows: one cannot use the resultative PrP to (a) provide further information about a pragmatically presupposed event, (b) anchor the event in time by means of a temporal adverb, (c) assert the occurrence of an event complex or 'plural event' (Bach 1986), (d) specify the manner in which an action was performed. I will demonstrate that these constraints do not attach to the existential PrP; PrP sentences starred on a resultative reading often have an acceptable existential reading.

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The aforementioned restrictions have an apparent functional motivation: the resultative PrP is used to focus upon the presently accessible consequences of a past event, rather than upon the past event *per se*. The latter function is associated with the preterite. The preterite, according to Anderson (1981:230), is used "to describe a specific past event for its own sake (the essence of true narrative)". This function is commonly contrasted with that of the PrP. The PrP is said to indicate 'current relevance' and to evoke an 'indefinite past'. A number of analysts have complained about the vagueness inherent in such descriptions of PrP meaning (cf. McCoard (1978)). These descriptions are vague in part because they presuppose that the PrP has a unitary semantico-pragmatic definition. In fact, the role typically assigned to the PrP—that of marking an indefinite past—conflates two quite different functions. The resultative PrP, like the preterite, evokes a small, specific past interval, i.e., a unique event time. This interval happens to be unavailable for modification by a temporal adverb (cf. (5.7)), but it can serve as the time frame in which events coded by subsequent preterite-form assertions are located. For example, as we will see below, the resultative PrP can be used in the 'lead sentences' of news reports, where later preterite-form assertions provide further information about the event expressed by the PrP-form sentence. The existential PrP, by contrast, evokes not a specific past interval but a present-inclusive time span (general or restricted) within which one or more events of a certain type are located. Likewise, the 'current relevance' rubric can be shown to subsume both a resultant-state implication and a modal notion that was termed the 'present possibility' requirement.

The contrast between resultative PrP and preterite was discussed in chapter three, where we focused upon the development of a discourse-functional opposition between the two closely alligned forms of past-time reference. We saw that in Old and Middle English, according to Visser (1966), the two forms—resultative PrP and preterite—were largely interchangeable in both poetry and prose. The diachronic retention of these two exponents of past-time reference can be attributed to the ability of speakers to establish a pragmatic

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contrast among two or more semantically commensurate forms (Clark 1987). The diachronic resolution of constructional synonymy will often involve the interaction of semantic and pragmatic factors: if two distinct constructions are semantically equivalent, these constructions will come to be seen as functionally opposed. These are cases in which "speakers innovate pragmatic extensions of grammatical forms" (Slobin 1990).

In Modern English, the resultative PrP and preterite participate in a discourse-pragmatic opposition; the preterite is the unmarked member of this opposition. This opposition arises from the contrast between anaphoric and deictic determination of reference time. The preterite is anaphoric in that preterite-form assertions locate a situation at a 'definite' past interval: a time which has either been previously evoked in the discourse or is contextually recoverable. Preterite-form assertions are said to 'refer back' to a linguistic or extralinguistic temporal antecedent. [1] For example, the sentence *I went swimming* might refer back to the temporal antecedent set up by the preterite-form question *What did you do yesterday?* In contrast with the preterite, the resultative PrP expresses deictic temporal reference. Sentences like *I've met someone else* are used to assert the existence of a

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1 In this discussion, we will not consider narrative which entails temporal progression. In such narratives, the reference time of a preterite-form assertion is a time 'just after' the reference time of the previous preterite-form assertion. An example of temporal discourse is given in (a):

(a) Marge walked into the room. She slipped off her shoes.

As Partee (1984) observes, the anaphoric analysis of the preterite is incompatible with the successive updating of the reference time found in narrative texts like (a). The anaphoric properties of the preterite emerge most clearly when we look at texts like (b):

(b) I broke my finger. Someone slammed the closet door on it.

In (b), the reference time of the second sentence can be identified with that of the first sentence. The text in (b) can be said to exemplify *elaboration mode*, rather than *temporal-progression mode*.

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presently accessible result (e.g., the current lack of romantic interest in the addressee); they do not require reference to a previously evoked or currently accessible past interval. Certain grammatical constraints upon the resultative PrP, like that related to pragmatic presupposition, can be attributed to its lack of an anaphoric function.

I will suggest, however, that the restrictions upon the resultative PrP construction (RPC) do not follow automatically from any general grammatical or functional principles, whether universal or English specific, and that therefore the resultative PrP qualifies as a *formal idiom*: a morphosyntactic configuration characterized by otherwise unpredictable grammatical constraints and "dedicated to semantic and pragmatic purposes not knowable from form alone" (Fillmore, Kay and O'Connor 1988:505). Idiomaticity is a matter of degree: the properties of idiomatic form-meaning pairings are motivated to the extent that they have a precedent elsewhere in the grammar. In English, for example, the use of the definite article as a degree marker in formulaic expressions like *the better to eat you with* is semantically motivated insofar as the definite article is assigned this same function in the so-called comparative conditional (*The more, the merrier*). The inheritance relations which link constructions are analogous to derivational relationships between words. Derivational links, such as that relating the words *collate* and *collateral*, might be tenuous, as might the inheritance relations which link a given construction to one or more formally and semantically similar constructions. In such cases, knowledge of one form-meaning pairing does not relieve the learner of the obligation to learn the related pairing.

The existential and continuative readings of the PrP closely resemble the analogous readings of the PaP; the corresponding constructions are strongly motivated, since adverbial co-occurrence restrictions and interpretive constraints are largely predictable from the relevant semantics, shared by both PaP and PrP forms. In the case of the resultative PrP, however, we find grammatical and pragmatic constraints which a learner would not know simply by knowing that the perfect form may signal that 'the result of an event continues to the reference time'. Therefore, I will presume that the knowledge that speakers

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use in producing sentences like (5.6c) is represented as a highly idiomatic pairing of form and meaning: the RPC.

In the following section, I will present a more complete analysis of the preterite than has been offered in our previous discussions. This analysis will serve as the basis for an account of the discourse-functional opposition in which the RPC and preterite participate.

5.1. The Past Revisited

Our analysis of the preterite was introduced in section 1.2.2.4, where Reichenbach's (1947) notion of *reference time* was discussed. In that discussion, we observed that truth-functional accounts of preterite meaning can be divided into two general types. In both accounts, the past-tense marker is viewed as an operator *Past*, which scopes a tenseless proposition. The truth of the resulting proposition is evaluated for speech time *t*. The first type of account, associated with Prior (1967), is that in which a proposition of the form *Past* (A) evaluates to true iff the tenseless proposition *A* is true at some time *t'* earlier than *t*. In the second type of account, advocated by Reichenbach, a past-tense sentence is interpretable as true or false only relative to a given (past) reference time. Reference time, according to Klein (1992:535), is "the time for which, on some occasion, a claim is made". Partee (1984) observes that under the Priorean view, the truth of the preterite-form assertion depends on the truth of the base sentence at *some* time in the past, while under the Reichenbachian view, the truth of a preterite-form assertion depends on the truth of the base sentence at *that* time in the past.

Most recent formal accounts of tense reference have followed the Reichenbachian view. Reichenbach's account is preferred because, as we saw in section 1.2.2.4, there is evidence which suggests that reference-time specification must be part of the truth conditions of preterite-form sentences. For example, the sentence *I bought you a newspaper* will be judged false if the base sentence is false at the time that the hearer has in mind (e.g., that morning), despite the fact that the base sentence may be true at some other time (e.g., last year).

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In chapter one, I argued, following Partee (op. cit.), that state predications subsume the relevant reference time. For example, the assertion *The suspect had a beard* is made relative to a specific past interval, and does not indicate whether the state referred to holds now of the individual denoted by the NP *the suspect*. In such cases, the past-tense assertion signals that the speaker wishes to vouch for the presence of the denoted state of affairs only during the relevant past interval. What do we mean when we refer to a past interval as *the relevant interval*? Presumably, this is a specific past time which the utterer of the preterite-form sentence has in mind, and believes that the hearer has in mind (or can readily call to mind).

For Hinrichs (1986) and Partee (1984), among others, the requirement of mutual knowledge of the evoked past interval is captured by a representational system in which this interval is anaphorically bound to a specific time frame that has previously been introduced in the discourse, or is otherwise recoverable from context. Accordingly, some analysts (e.g., Heny 1982) have suggested that the preterite should not be represented by an existential quantifier over past times (as Priorean treatments would have it), but by an anaphorically bound temporal variable. This mode of representation is intended to capture the insight that the past tense "points to a particular (context-determined) [temporal] location" (Cooper 1986:237).

The analogy between this form of temporal reference and nominal anaphora is tenuous, since, as Partee (1984:275) admits, "[i]ntuitively, noun phrases 'refer' and tenses do not". It stretches credibility somewhat to suggest that a tense refers to a time in the same way that a noun phrase refers to an individual. Nevertheless, in eventuality-based systems of representation like that of Parsons (1990), times are existentially bound variables, and thereby qualify as individuals, just as episodes (events) qualify as individuals. Therefore, we can speak of the past-tense operator as evoking two temporal individuals: the time of the utterance (represented as a context-sensitive variable), and the past time of occurrence. We can also speak of the time of occurrence as *locatable within a history*, since a history

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incorporates a time line: an ordered set of (temporal) individuals. A history is defined, as in section 1.1., as a mental record of events locatable along a linear pathway of temporal intervals leading to the present moment. According to the Hinrichs-Partee model, the interpreter of a past-tense assertion must locate the occurrence time within a history, i.e., an ordered set of times (and attendant situations) whose upper boundary is the present moment.

As in cases of nominal anaphora, the temporal antecedent may be an element of the linguistic context or an element of the extralinguistic context. Linguistic antecedents include definite punctual past-time adverbs like *yesterday*, reference times evoked by previous past-tense assertions and bound temporal variables evoked by the subordinate clauses of certain habitual sentences. Examples of these three types of antecedents are given in (5.9a-b):

(5.9) a. Yesterday, I got a strange phone call.

b. Harry threw a party. He got completely sloshed.

c. Whenever he touched the door knob, he got a shock.

In (5.9a), the preterite-form assertion evokes a past time identified with that denoted by the adverb *yesterday*. Here, *yesterday* has a frame-adverbial reading: the time at which the phone call occurred was a time within the set of times describable as *yesterday*. In (5.9b), the time of the second preterite-form assertion is interpreted as the time evoked by the first such assertion: the event of Harry's becoming drunk is located within the interval during which Harry gave the party. In (5.9c), a somewhat different form of anaphoric past-time reference is involved: the past tense predication appearing in the main clause does not evoke a unique time of occurrence, but a temporal variable, introduced by the subordinate-clause predication. Here, two temporal variables are co-bound: the time of each past door-knob-touching event is the time at which a shock was received.

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In the case of an extralinguistic temporal antecedent, the time frame with respect to which the preterite-form assertion is interpreted must be recovered from context. Context in this case is *that history to which the interlocutors have joint access*. The history available to the interlocutors includes the immediate past period represented by the last phase of the discourse. For example, the time of the hearer's most recent discourse contribution provides an extralinguistic antecedent for the preterite-form question in (5.10):

(5.10) I didn't catch the end of your sentence.

The 'historical background' may also include events outside of the immediate context of the discourse. These are events which the interlocutors can access from a shared history at a time when some event which was previously in the offing is known to have occurred. For example, if the speaker and hearer share knowledge that the hearer was to request a raise at some point during the course of the work day, the speaker may ask the following question, upon the hearer's return from work:

(5.11) How did you do?

The event whose time of occurence provides the temporal frame of reference for the preterite-form assertion need not be recent, although the event must be salient to the degree that the interpreter can recover the occurrence time. An illustration of this claim is found in an anecdote, told by Charles Fillmore (p.c.), the humorous effect of which arises from the fact that a preterite-form utterance has a remote-past reference time that is nonetheless easily recoverable. Fillmore reports that during a chance meeting on the streets of London, a fellow linguist invited him to a local fish restaurant famous for its plaice (a type of flounder). Fillmore declined the invitation but, upon meeting that same linguist five years later, greeted him with the preterite-form question *How was it?* (The addressee replied,

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"Excellent.") Here, the plaice-consumption event, although certainly not recent vis-à-vis the individual histories available to each of the two speech participants, is salient, because no more recent events transpired within the representation of history *held in common* by those interlocutors.

In distinguishing between temporal antecedents which are linguistically expressed and those which can be characterized as 'belonging to the discourse context', it is useful to invoke Lambrecht's distinction between identifiability and activation status—a distinction used to describe the mental representations of nominally encoded discourse referents (Lambrecht forthcoming). I will extend these concepts to the domain of discourse referents representing 'temporal individuals', i.e., occurrence times established in the 'historical record' shared by speaker and addressee. According to Lambrecht, the identifiability parameter "has to do with the speaker's assessment of whether or not a discourse representation of a particular referent is already stored in the hearer's mind". The activation parameter concerns the "speaker's assessment of the status of an identifiable referent as 'activated', as merely 'accessible' or as 'inactive' in the mind of the hearer at the time of the speech act". An *active concept* is one which, in the words of Chafe (1987:22), is "currently lit up, a concept in the person's focus of consciousness at a particular moment".

An entity which is identifiable is one the interlocutors can distinguish from other entities with which it shares properties criterial for category membership. A formal correlate of identifiability is *definiteness*, in those languages which have grammaticalized definiteness distinctions. In such languages, the definite article typically indicates that the noun to which it attaches refers to an entity which is contextually the uniquely salient exemplar of the category in question. For example, in the sentence *I picked up the package*, the definite NP *the package* refers to an entity for which a shared representation exists in the minds of speaker and addressee. In the case of 'temporal reference', as mentioned, identifiability arises from the ability of speaker and hearer to select the evoked past interval from a time

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line which forms the basis for a representation of history shared by the interlocutors. The interpreter must be able to *locate* the relevant interval within that history.

Identifiable referents, according to Lambrecht, may be in any of three activation states: active, accessible or inactive. While an active concept is a focus of the interlocutors' consciousness, an accessible concept is either in the hearer's peripheral consciousness (as construed by the speaker) or is a salient member of a semantic frame that has been invoked in the discourse. A referent may be said to be in the hearer's peripheral consciousness if, for example, it is a salient part of the text-external world. Deictic expressions like *those pictures* may be said to refer to an accessible referent in sentences like *Those pictures sure are ugly*, used to describe some pictures on the wall of the addresee's office (where speaker and addressee are both present in the office). An accessible referent, according to Lambrecht, is more readily brought to mind by the interpreter than one which is inactive. With respect to nominal reference, Lambrecht observes that "the active status of a referent is formally expressed via lack of accentuation and typically (but not necessarily) via pronominal coding of the corresponding linguistic expression". Inactive or accessible status is accordingly conveyed by accentuation of the referential expression and full lexical coding (the distinction between inactive and accessible status is not linguistically expressed).

In the case of temporal anaphora, we can say that a past period is active when it has already been invoked in the discourse, and accessible when it has not been explicitly invoked but is salient in the extralinguistic context. For example, a preterite-form assertion can be said to invoke an active past interval if the past interval to which the assertion is relativized has already been referred to by a previous past-tense predication (cf. (5.9b)). A past time of occurrence is accessible if it is contextually recoverable. The temporal individual evoked is in the situational context, and is therefore more easily conjured up in the addressee's mind than one which is entirely inactive. As we observed above, the situational context may be the immediate context of the discourse (e.g., the time of the last discourse contribution in (5.10)), or it may be some salient portion of the history which

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leads up to the present discourse, e.g., in (5.11), the time during the work day at which the addressee requested a pay raise.

Whether the interval evoked is characterizable as active or as merely accessible in a discourse, it represents a closely circumscribed interval. If the relevant past interval were not circumscribed, one could not locate it at a particular point in a history. In the examples which we have encountered so far, the preterite evokes a past interval that is *pointlike*. For example, sentence (5.10) evokes the point in time at which the addressee's last discourse contribution was made. Intuitively, it is odd to refer to the reference time as a point, since we know that the addressee's utterance must have taken time, and that therefore the reference time evoked by (5.10) qualifies as an interval. However, as Herweg argues (1991b:982), one cannot distinguish intervals from moments (i.e., degenerate intervals) without considering the time units relevant to the cognizer(s) (cf. also Talmy 1988):

> Since on the conceptual level we deal with mental representations of time,...viewing a period of time as pointlike means that its internal structure is cognitively neglected as a matter of the granularity of perspective taken by the subject. Thus, we allow that one and the same temporal entity be represented as a pointlike or complex time depending on the situation.

In the context of this analysis, "situation" is to be construed as the particular time line invoked in the mental representation of a history—a representation which the speaker presumes is shared by the hearer. Our analysis of preterite is based on a model in which this representation of history evokes a time line whose fundamental unit of temporal measurement can be characterized as a moment. This model requires that the past moment evoked by the preterite is (a) *identifiable* (i.e., locatable at a particular point along the time line) and (b) *active or accessible* at the time at which the preterite-form sentence is uttered.

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The analysis just offered is somewhat oversimplified, since the preterite may evoke a past period that has internal structure, i.e., is divisible into subperiods. In the following sentences, the past period referred to is necessarily interpreted as an interval or 'complex time':

(5.12) a. Did Karla ever call you?

b. Goldman Sachs interviewed Bruce twice.

In (5.12a), the adverb *ever* denotes a range of times that are potential times at which Karla's calling took place. According to W. Ladusaw (p.c.), *ever* (like its negative counterpart *never*) can be used to preempt the inference that a past predication refers to a 'small' (i.e., momentaneous) period: (5.12a) refers to a past interval, e.g., a day. In (5.12b), the presence of the frequency adverb *twice* requires that the past-tense assertion be taken as evoking a period long enough to include two interviewing events. In both (5.12a) and (5.12b), the preterite-form assertion evokes an identifiable past time that is either active or accessible in the discourse context. Sentence (5.12b) might be used to answer the question *What happened last week?* Sentence (5.12a) might be used to inquire about events that occurred on the addressee's birthday. The birthday might be an accessible time frame in the discourse, i.e., one that has not been explicitly invoked, but is presumed salient to the hearer. In (5.12), unlike the previous examples, the 'definite' time invoked by the preterite is a complex time, which includes two or more (potential or actual) event times. However, the sentences in (5.12) are like the previous examples in that the past time evoked can be characterized as having a linguistic or extralinguistic temporal antecedent. Therefore, the time frame referred to by the preterite, whether a pointlike or complex time, is a saliently bounded interval that can be placed at a particular location on a time line (i.e., is identifiable) and is either active or accessible in the discourse context.

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The circumscribed character of the past time frame invoked by preterite emerges clearly when one contrasts the preterite with the existential PrP. Our analysis of the existential PrP was prefigured in chapters three and four, and the contrast at issue was briefly discussed in footnote 8, chapter one. Here, let us consider the contrast-pair given in (5.13):

(5.13) a. I went to Paris.

b. I've been to Paris.

Sentence (5.13a) evokes a specific, circumscribed past interval. This sentence may be a response to a question concerning activities that the speaker engaged in during the past summer. This sentence would be anomalous as a discourse-initial assertion. In order to qualify as a felicitous discourse-initial utterance, (5.13a) would require a past-time temporal adverb like *in 1992*. A frame adverbial of this type would 'activate' a particular past time within a representation of history which the speaker, by uttering (5.13a), signals an intention of constructing.

By contrast, sentence (5.13b) does not evoke an identifiable past interval. As a consequence, the sentence may be used to denote any number of visits to Paris by the speaker. Therefore, the question *How many times?* would be an appropriate response to (5.13b), but it would not ordinarily be an appropriate response to (5.13a). While each visit to Paris necessarily has a past time of occurrence, the interpretation of (5.13b), unlike that of (5.13a), does not require the interpreter to invoke a particular past time of occurrence. Instead, the interpreter need only envision a general time span, whose upper boundary is the present time, within which the event or events denoted in question took place. The interval itself may be denoted by a time-span adverb like *before*. Alternatively, the lower boundary of that interval may be denoted by a *since*-adverbial expression (e.g., *since the war ended*).

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The distinction between the two types of past-time reference exemplified in (5.13) becomes clearer when we look at the interaction of these predication types with frequency adverbials. Notice that if we add the frequency expression *three times* to each of these sentences, the circumscribed and specific character of the interval evoked in (5.13a) is unchanged. That is, (5.13a) still refers to a definite past period (e.g., last year), although this period is not a pointlike time but a complex time—an interval containing several visits to Paris. In the case of (5.13b), however, the times at which visits to Paris took place are not placed within any temporal boundaries; the event time or times are simply located prior to speech time. An example analogous to (5.13) is found below:

(5.14) a. Did Karla ever call you? (= (5.12a))

b. Has Karla ever called you?

In (5.14b), *ever* refers to an interval which effectively lacks a lower boundary. The speaker's inquiry can be said to concern the history of the addressee's friendship with Karla. In (5.14a), by contrast, the speaker's inquiry concerns only a limited period prior to speech time. While the most likely response to (5.14a) would be a simple affirmation or denial, the most likely response to (5.14b) would include a frequency expression like *several times*. This is a reflection of the fact that preterite form sentences are ordinarily taken to refer to unique past events—since the reference times involved are closely circumscribed—while sentences like (5.14b) evoke any number of instances of the event type denoted, since the past period invoked is a broad expanse of time.

Another distinction between the preterite and the existential PrP involves a feature which I will treat as a conventional implicature: the present-possibility constraint. According to McCawley (1971), among others, the existential PrP requires that the event or episode denoted by the VP complement be capable of occurring at the present time.

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Examples (5.15a-b) demonstrate that the present-possibility constraint does not characterize the preterite:

(5.15) a. I went to a Neil Young concert.

b. I've been to a Neil Young concert (before).

In sentence (5.15a), the indefinite NP *a Neil Young concert* refers to a specific performance, which took place at a definite past interval. In sentence (5.15b), however, the NP *a Neil Young concert* refers not to a specific performance but to a type of performance (one given by Neil Young). Sentence (5.15b) asserts that within an interval upper bounded by the present, there were one or more instances of the event denoted by the base sentence *I go to a Neil Young concert.* This sentence conventionally implicates that the event denoted could recur at the present time. Therefore, Neil Young must be alive at present, capable of giving performances, etc. No such implication is attached to (5.15b): this assertion is felicitous if Neil Young is deceased, if he has retired from touring, etc.

There are (at least) two classes of exceptions to the analysis of the preterite offered above. In the first class, described by Heny (1982) and Partee (1984), among others, the past time of occurrence invoked by the preterite is neither active nor (necessarily) identifiable. Consider the following examples:

(5.16) A: How did Cicero die?

B: He was executed by Marcus Antonius.

(5.17) Shakespeare said, "In many's looks the false heart's history is writ".

In these examples, the preterite-form assertions (e.g., *He was executed, Shakespeare said*) do not refer to a period which is under discussion or contextually salient. For example, as shown, B's assertion in (5.16) need not answer a question like: *What*

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happened to Cicero in 43 BC? Further, the event time in question need not be locatable by speaker and/or addressee at a particular point in a representation of history (in these examples, a remote-past history). The discussants in (5.16) need not know that the event referred to (Cicero's death) occurred in 43 BC. Similarly, the utterer of (5.17) need not know even the approximate period in which Shakespeare expressed the quoted sentiment. In (5.16-5.17), the location of the reference time is not relevant to the concerns of the speaker and/or hearer. In such cases, the meaning of the past tense is appropriately represented by the Priorean model: an event occurred at some time prior to now. Partee (1984:296), makes a similar observation with respect to the sentence *Who killed Julius Caesar?*: She points out that, in interpreting this sentence

> [the hearer does] not have to know when it happened to know who did it, given that it could only have happened once if it happened at all. In [this] case, the reference time could potentially be the whole of the past.

In another class of exceptions to the analysis of the preterite offered above, the preterite not only lacks an active and identifiable event time, but also appears to evoke a deictically determined reference time. In these cases, the preterite serves a communicative function like that of the RPC. Consider the following examples:

(5.18) I already told you: I'm not interested!

(5.19) Pat NIXON died.

In (5.18), the preterite-form assertion apparently refers to a present state of affairs: the addressee's knowledge of the speaker's lack of interest; the sentence implies that this state of affairs is the result of a past event: the speaker's reporting his or her lack of interest to the addressee. Here, the adverb *already*, which ordinarily accompanies state predications,

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anchors the reference time of the assertion to the present. Sentence (5.19) is ambiguous, in that it can be taken as an argument-focus response to the question *Who died yesterday?* or as a 'sentence-focus response' to a question like *What happened in the news yesterday?* (cf. Lambrecht forthcoming). In the context which I have in mind, however, (5.19) is a sentence-focus assertion, and no past interval has been invoked in the discourse context. Accordingly (5.19) may be a discourse-initial utterance, in which case the speaker is simply reporting a momentous event to the addressee. On this reading, sentence (5.19) has a function like that of the 'hot news' PrP. In sum, neither (5.18) or (5.19) invokes a past time that is active or identifiable in the minds of the interlocutors at the time of the utterance.

In light of examples like (5.16-5.19), I conclude, in accordance with Richards (1982:134), that

> any account of the apparent 'referentiality' of some cases of the past tense which makes it logically necessary for the well-formedness of a past-tense sentence that there be ...reference to some specific [i.e., context-determined] time...cannot be correct.

Instead, I will presume that the 'anaphoric' use of the past tense is one of the communicative functions of the past tense, but not its only function. Let us propose that there is a feature [± anaphoric] which attaches to all exponents of past-time reference in a given language. A form which expresses a past-tense relation will be regarded as [+ anaphoric] iff it requires the interpreter to 'anchor' the event expressed by the base sentence to a 'definite' past interval, i.e., an interval which is both active and identifiable. I will presume that the English past tense is unmarked with respect to the anaphoricity feature: it is capable of expressing both anaphoric and nonanaphoric past-time reference. Below, I will argue that the resultative PrP participates in a markedness opposition with the preterite, in which the resultative PrP is marked as [- anaphoric].

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We will now proceed to examine the distinct readings of the PrP, exemplified in (5.6), after which we will look at those properties of grammar and use which are unique to the resultative reading. The next section will provide evidence that the PrP is ambiguous rather than vague with respect to the relevant readings.

5.2. Vagueness versus Ambiguity

Since McCawley's 1971 paper, "Tense and Time Reference in English", in which temporal logic was used to describe distinct readings of the PrP, many analysts investigating the semantics of the PrP have been concerned with the following question: are the readings at issue simply uses inferred in particular communicative contexts, or are they distinct meanings? Among those analysts who have approached this question, most, including Bauer (1970), Brinton (1988), Dinsmore (1991), Fenn (1987), Klein (1992) and McCoard (1978), have rejected McCawley's claim that the understandings exemplified in (5.6) should be assigned distinct underlying semantic representations. Instead, these authors have proposed that the distinct understandings in question are computed by interpreters invoking features of the linguistic and extralinguistic context in order to decode an otherwise vague predication. [2] A fundamental difficulty with this kind of account emerges when we consider the unreliability of contextual cues said to signal a resultative as against existential understanding. Klein, for example, assumes that the PrP is vague with respect to both the frequency of the denoted event and the distance of event time from speech time. Accordingly, he argues

> [t]he fact that both distance and frequency of TSit [event time] are left open gives rise to different readings of the perfect—experiential [existential], resultative perfect, and

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2 Not all recent analysts who have looked closely at the meaning of the PrP have focused on the distinct interpretations cited in (5.6). Some, like Inoue (1979), have simply equated the semantics of the PrP with one of its readings. Inoue's analysis of the PrP appears to be based on the existential reading alone. Parsons (1990), by contrast, concerns himself only with the resultative reading.

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others. But these readings do not arise from an inherent ambiguity of the perfect. They stem from contextual information... (p. 539)

Presumably, the frequency variable in Klein's formulation relates to the potential for an existential understanding: existential perfects commonly refer to iterated events. The interpreter might therefore be said to compute an existential understanding upon encountering a PrP sentence containing a frequency expression like *twice*. For example, the sentence *Harry has visited Cleveland twice* is necessarily assigned an existential meaning. The existential understanding, however, is potentially available even when the PrP-form predication does not establish the existence of multiple events of a given kind. Consider example (5.6b), repeated here for convenience:

(5.6) b. We've had this argument before.

This example demonstrates that an existential PrP may denote only one instance of the event in question. The interpreter of (5.6b) can understand this sentence as an existential PrP, even though he or she may have in mind only one instance in which the argument took place.

Under Klein's account, the possibility of a resultative understanding will depend upon the speaker's inferring that the event denoted by the VP complement is recent. [3] Result states may be of short duration; if a temporary result is to remain in force at speech time, the causal event must be recent. However, immediacy of the event to speech time is neither a necessary nor a sufficient condition for the invocation of the resultative understanding.

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3 Klein actually argues only that the Comrie's (1976) 'perfect of recent past' (= McCawley's 'hot news' perfect) is invoked when event time 'immediately precedes' reference/speech time. As we saw in section 4.2.1. however, the hot-news PrP can be regarded as a subvariety of resultative PrP.

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The argument that recency is a sufficent condition commonly proceeds from examples like (5.20):

(5.20) Have you seen my slippers?

To a question of this sort, the argument goes, only an uncooperative hearer would respond: *Yes, about a month ago.* That is, the questioner presumably intends a resultative understanding of (5.20): she is inquiring about a past sighting of the slippers which currently affects the hearer's ability to locate the slippers. The questioner does not intend an existential understanding, i.e., an interpretation which might cause the hearer to mention one or more slipper sightings in the distant past, having no importance for the present state of things. The contextual effects observable here are, however, reducible to relevance-based implicature, together with inference related to the temporary nature of a given slipper location. The interpreter of the PrP-form question (5.20) will recognize that the only relevant response is one which concerns the questioner's current quandry: the need to find her slippers. This response entails a resultative interpretation of the question. Furthermore, since the conversants know that slippers and other such objects typically remain in a given location only briefly, they also know that the hearer's knowledge of the present location of the slippers will depend upon the hearer's having sighted them recently. Therefore, the resultative reading of a PrP-form utterance does not depend upon the interpreter's awareness that the event denoted is recent. Rather, recency of the event with respect to speech time is intrinsic to the resultative interpretation *in certain scenarios*, like that described as the context for (5.20).

Recency is not a necessary condition for the adduction of the resultative interpretation. Consider sentence (5.21):

(5.21) It seems Grandpa has cut me out of the will.

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Sentence (5.21) can be construed resultatively even in a context in which the disinheriting event occurred many years prior to the reporting of it, so long as certain effects of that event (penury, etc.) are in force at speech time. Sentence (5.21) shows that the causal event denotedby the RPC need not be recent.

Perhaps recognizing that recency of the VP-complement denotatum vis-à-vis speech time is not an essential component of the resultative understanding, Klein goes on to argue that in fact the resultative understanding arises when "contextual information...tells us...that the consequences [of the event] are still to be felt" (p. 539). A similar argument is made by Dinsmore (1991). While the existence of present consequences is certainly intrinsic to the resultative understanding, adduction of the resultative understanding does not always depend upon the availability of the relevant results at speech time. As we saw in section 4.2.3, there are a number of instances in which a resultative understanding is operative under circumstances in which the reference time of the PrP-form assertion is decoupled from speech time. In that section, I pointed out that the PrP has a nondeictic reading in contexts like (5.22):

(5.22) Whenever I've seen Madge, she has just had a fight with her boyfriend.

In the main clause of (5.22), a PrP-form assertion has a resultative understanding. This understanding is present despite the fact that the resultant state at issue (Madge is agitated or upset) does not necessarily obtain at speech time. Rather, the resultant state in question obtains at all (past) times characterized by the speaker's sighting of Madge. In Partee's terms (1991), the sentence involves co-binding of a time variable expressed by the subordinate clause: all times at which the speaker sees Madge are times at which an event of Madge's fighting with her boyfriend has occurred. Here, the reference time of the PrP,

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ordinarily equated with the present, is a variable time, ranging over values within a present-contiguous past period.

As I will argue below, the semantic representation of the resultative PrP includes a conventional implicatum: the resultant state of the event denoted obtains at speech time. Examples like (5.22) demonstrate that speech time need not provide the temporal frame of reference for which the resultant-state implicatum is evaluated. Examples like (5.22) are not problematic if one views the resultative understanding as a distinct reading on the semantic level. Such examples simply show that the resultative PrP has a property in common with many other deictic expressions: its 'contextual variable' need not be anchored by the speech scene: instead, it can be equated with a value or values outside the speech context. Examples like (5.22) are difficult to reconcile with an account like Klein's, in which the interpreter computes a resultative understanding on the basis of knowledge that a resultant state of the kind at issue currently exists. As (5.22) shows, the current presence of the relevant resultant state is not a necessary prerequisite for evocation of the resultative understanding.

There is another difficulty which weakens analyses like Klein's: the distinct PrP readings have distinct grammatical reflexes. In general, contextually computed meanings do not have grammatical ramifications, while conventional meanings may. Zwicky and Sadock (1975) argue that when distinct grammatical features (of a sufficiently idiosyncratic type) attach to distinct understandings of a given construction, the construction in question is ambiguous rather than vague with respect to those understandings. One example examined by Zwicky and Sadock involves subordinate *wh*-clauses in sentences like (5.23), which is ambiguous between headless-relative and indirect-question readings:

(5.23) I asked what (the hell) she had asked.

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Zwicky and Sadock point out that the idiomatic expression *the hell*, placed after the *wh*-complementizer/relativizer, ensures that (5.23) receives an indirect-question reading rather than a headless-relative reading. Therefore, they argue, the construction exemplified in (5.23) is ambiguous rather than vague with respect to the two understandings, since an idiosyncractic (i.e., non semantically motivated) grammatical feature will generally attach only to a conventional (i.e., non context-dependent) understanding.

Vagueness analyses like Klein's fail to countenance grammatical facts of the sort to be explored here. It is difficult to imagine how one might reconcile the claim that the PrP is semantically unambiguous with the fact that, for example, the existential understanding is compatible with manner modification while the resultative understanding is not. Recall examples (3.11a-b), repeated here for convenience:

(3.11) a. Our committee chair has (??angrily) tendered his resignation.

b. Our committee chair has angrily tendered his resignation every time we have asked him to take a controversial stand on something.

These examples indicate that the existential-resultative distinction is a conventional one, since it has a grammatical reflex (i.e., a co-occurrence restriction) which is not predictable from the two meanings involved. The argument here is similar to Zwicky and Sadock's claim about (5.23). Admittedly, however, the fact that the distinct perfect understandings have distinct co-occurrence constraints does not necessarily obviate a vagueness analysis. The PrP readings in (5.6) can be regarded as products of the interaction between a vague PrP meaning (perhaps including 'current relevance') and the lexical specifications which 'fill in' the construction. Under this analysis, the distinct readings of the PrP arise via constructional accommodation (cf. section 2.2). According to Bauer (1970) and Brinton (1988), these lexical fillers include adverbial meanings and the Aktionsart properties of the VP complement. According to Brinton (p. 45), "Consideration of the interaction of the

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perfect with Aktionsart leads to a rejection of the idea that there are different 'types' of perfects". Brinton's argument is based on Bauer's account of contextual-modulation effects, which is summarized in (5.24):

(5.24) a. If the complement is atelic and the verb is accompanied by a time-span or durational adverb (*since three, for two hours*, etc.), the perfect is continuative.

b. In the absence of such adverbials, and occasionally in the presence of a frequency adverb like *twice*, the perfect is existential.

c. If the complement is telic, the perfect is resultative.

Despite the attractive simplicity of this solution, the 'algorithm' summarized in (5.24) is inadequate in many respects. In general, it is difficult to maintain an accommodation-style vagueness analysis in light of the fact that the PrP construction is characterized by *token ambiguity*. Let us say that a construction exhibits token ambiguity if a set of understandings attributable to a grammatical template outside of any lexical context is also available when that template has been 'filled in' by lexical material. As an example of a construction exhibiting token ambiguity, let us take the *way*-construction, described by Jackendoff (1990) and Goldberg (1992b). Jackendoff points out that sentences like the following are ambiguous between 'causative' and 'manner' interpretations:

(5.25) Marvin joked his way into the meeting.

This sentence can be taken to mean either that (a) Marvin convinced people to let him into the meeting by joking with them, or (b) Marvin made jokes as he walked into the meeting. In (5.25), we see that the *way*-construction, consisting of a verb, a possessive NP headed by *way* and a directional expression, is token ambiguous, since the lexical

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fillers (the head verb and directional expression) do not resolve the manner-causative ambiguity associated with the constructional 'skeleton'. By contrast, constructions whose variegated interpretations derive from the modulating effects of linguistic context do not exhibit token ambiguity. Thus, for example, while the English ditransitive construction has a large array of interpretations (cf. Goldberg 1992a), a given instance of that construction is unambiguous. The construction can be said to express a vague meaning: it links the direct object function to the role of *potential recipient*. Where the head verb is a transfer verb like *give*, the construction encodes actual transfer (*Harry gave Marge the book*). Where the head verb is nontransfer verb (e.g., *promise*) the construction encodes intended transfer (*Harry promised Marge the car*). The ditransitive valence-construction cannot be said to exhibit token ambiguity, as either the effected- or intended-transfer reading is unequivocally associated with a sentence instantiating that argument-structure construction; the lexical verb determines the relevant reading. If, however, the relevant linguistic context fails to resolve the vagueness otherwise associated with the semantics of the construction, as in (5.25), then we have evidence that an accommodation-based (equivalently, integration-based) analysis is not appropriate. In what follows, we will examine evidence that the conditions set out in (5.24) leave room for interpretive indeterminacy vis-à-vis PrP tokens, and that therefore the PrP is token ambiguous.

Firstly, the combination of durational adverbial and imperfective aspect does not entail a continuative understanding of the PrP-form expression. As Dowty (1979), Heny (1982), Richards (1982) and Mittwoch (1988) observe, sentences like (5.26) are ambiguous with respect to continuative and existential interpretations:

(5.26) Harry has been in Bali for two days.
continuative: Harry's presence in Bali obtains for all times within a present-inclusive time span whose lower bound is two days ago.

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existential: There were one or more visits to Bali by Harry within a present-inclusive time span; each of these visits lasted two days.

Sentence (5.26) demonstrates that the fulfillment of condition (5.24a) does not render the PrP-form sentence unambiguous. The factors described in (5.24a) are therefore not sufficient to impose the continuative reading. However, these factors are necessary conditions: the continuative PrP indicates the cessation at speech time of a bounded state. Therefore, the complement necessarily denotes an imperfective situation—one which is typically bounded by means of a durational or time-span adverb.

Secondly, condition (5.24b) is neither a necessary nor sufficient condition for evocation of the existential reading. This reading is commonly ascribed to perfect sentences containing *telic* complement-VPs. Consider sentence (5.27):

(5.27) I've cleaned the whole house (before).

As Mittwoch (1988) shows, the existential interpretation itself, when adduced, imposes an episodic reading on a stative VP-complement: the sentence *Harry has been in Bali* is interpreted as meaning 'Harry has visited Bali'. Therefore, the existential reading, far from requiring the presence of an atelic or stative VP-complement, is capable of imposing an eventive construal upon an otherwise imperfective complement denotatum. This fact suggests that the existential PrP should be regarded as a grammatical construction, since it is apparent that the lexical verb *accommodates* to the semantic structure associated with the morphosyntactic template (cf. section 2.2.2).

Examples like (5.27) further demonstrate that condition (5.24c) is not sufficient to determine a resultative interpretation. Sentence (5.27) has a telic complement-VP and is nevertheless understood as an existential PrP. Is the presence of a telic participial complement a *necessary* characteristic of PrP sentences having the resultative reading?

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Sentences like (5.28) can receive a resultative interpretation, despite the lack of a telic VP-complement:

(5.28) I've knocked.

Sentence (5.28) might be used by one party guest to another, as the two wait on the front porch of their host's home—the hearer has just arrived, while the speaker has been waiting for several minutes. Given the interlocutors' knowledge of hailing conventions, the sentence is used to convey a result of the following sort: we should now expect our host to be receiving us. There may be other relevant results: the hearer need not knock herself. Notice that (5.28) in this context is not an existential perfect: (5.28) does not welcome time-span adverbials like *before* or frequency adverbials like *once*.

The indeterminate and context-dependent nature of the resultant state entailed by sentences like (5.28) has led McCoard (1978), among others, to reject the idea that a resultant-state implication is part of the message conventionally associated with the PrP form. How can a form be said to express the existence of a present result if the form does not necessarily provide a clue as to what that present result is? Those who pursue this line of argumentation overlook the following fact: the consequences of an event reported by means of the (resultative) PrP are necessarily computed relative to the setting in which the report is made. Accordingly, a resultative PrP sentence containing a telic participial VP may also be characterized as evoking an 'indeterminate result'. Consider the following example:

(5.29) OK. I've washed your car.

While sentence (5.29) entails the presence of a clean car at speech time, it might also be used to negotiate further consequences of that resultant state (the hearer must now pay the

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speaker, etc.).[4] Examples like (5.29) lead us to the conclusion that the resultant state entailed by the RPC is contextually determined (cf. also Fenn 1987, Parsons 1990); the constructional semantics specify only that *some* resultant state obtains. Complement-verb telicity will occasionally enable the interpreter to adduce the relevant result, but, as shown by (5.28), that cue is not necessarily in evidence. In such cases, as we will see in the next section, the result in force at speech time is simply that situation which is potentially significant to the interlocutors in their joint determination of immediate goals. I will argue that where a present resultant state has no role in determining an imminent course of action, that state is a poor candidate for presentation via the RPC.

Analyses like Brinton's do not therefore succeed in reducing PrP readings to the interaction of constructional and lexical semantics. They do, however, underscore the fact that the mere presence of co-occurrence restrictions uniquely associated with one or the other of the readings is a poor diagnostic for ambiguity. As Zwicky and Sadock (1975) argue, ambiguity claims based upon this type of diagnostic (which they refer to as the 'added material' test) fail when the distinct co-occurrence possibilities are semantically nonarbitrary, and the lexical material in question actually induces rather than reflects the distinct understandings at issue. The present analysis does not rest upon this unreliable ambiguity test. First, the diagnostics based upon pragmatic presupposition and event sequencing do not make reference to co-occurrence restrictions. Second, while manner and time adverbs do represent 'added material', it is not immediately obvious how the presence of one or the other of these elements would induce an existential as against resultative reading. As I will demonstrate, the past-time adverbs accepted by the existential (e.g., *in June*) are themselves ambiguous between definite and indefinite readings. Since these adverbs are necessarily interpreted as indefinites in the context of the existential PrP, it

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4 Slobin (1990) describes the role of such negotiation contexts in the acquisition of the resultative PrP by children.

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appears that the existential reading determines the reading of the adverb, rather than *vice versa.*

Additionally, as McCawley (1971) points out, the claim of ambiguity is bolstered in this case by the identity test: [5]

(5.30) Harry and Marge have been fired.

Sentence (5.30) cannot be used to assert both that Harry was fired at some point within his employment history (existential reading) and that Marge is currently out of work as a result of having been fired (resultative reading). Another test which supports the ambiguity claim involves the cross-linguistic potential for the distinct readings to be manifested as distinct lexical items (cf. Zwicky and Sadock 1975). For example, as I pointed out in chapter three, Mandarin formally differentiates the resultative and existential readings: the resultative reading is expressed by the coverb *le*, the existential reading by the coverb *guo* (cf. Comrie, 1976 and Li, Thompson and Thompson 1982).

5.3. Semantic Structures

5.3.1. Time-Span Perfects

The continuative and existential readings of the PrP have the following common semantic property: both locate an episode (an event or state phase) with respect to a time span which includes the present. In the case of the existential PrP, one or more events of a

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5 Dinsmore (1991) notices examples like the following, in which the identity test yields a different result than it does in (5.30):

(a) Harry has lived in France intermittently since the war and so has Jane, continuously.

In this example, the conjunction of continuative and existential understandings does not result in zeugma. One wonders, however, whether the presence of the adverbial specifications (e.g., *intermittently*) licenses what would otherwise be a 'crossed reading'.

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given type are located *within* this time span; in the case of the continuative PrP, a state phase occupies the entire time span. Features of adverbial co-occurrence reflect the shared semantic structure. For example, as we saw in section 4.2.1.2., both readings are compatible with *since*-adverbial expressions:

(5.31) a. Harry has been in Bali since Saturday.

b. Harry has been in Bali twice since Saturday.

In both (5.31a) and (5.31b), the *since*-adverbial expression denotes the lower boundary of a time span whose upper boundary is speech time. Mittwoch (1988:207ff) notices the following distinction between 'universally' and 'existentially' interpreted *since*-adverbial expressions: in the existential reading of the sentence *Sam has been in Boston since Tuesday*, "Tuesday is excluded from the range of possible intervals of Sam's being in Boston that are covered by the sentence". That is, episodes fall between the temporal poles represented by upper- and lower-bounding temporal specifications; states extend through those poles (and perhaps beyond them). I will presume that the *since*-adverbial construction is polysemous, having both universal and existential readings. These readings are related by virtue of the fact that both express a time span whose lower and upper boundaries are anchored by event and reference times, respectively (cf. section 4.2.1.2).

Syntactically, we will represent the *since*-adverbial construction as containing a valence requirement calling for a participial VP. Semantically, this VP represents a tenseless proposition, whose subject is coinstantiated with that of the finite auxiliary head. In terms of a logical representation like that of Heny (1982), Richards (1982) and Mittwoch (1988), the time-span expression occurs within the scope of the 'perfect operator'. Figure 5.1 shows the unification of the *since*-adverbial construction and the participial VP for sentence (5.31a). The unified structure is a VP, which in turn will unify with the continuative PrP construction:

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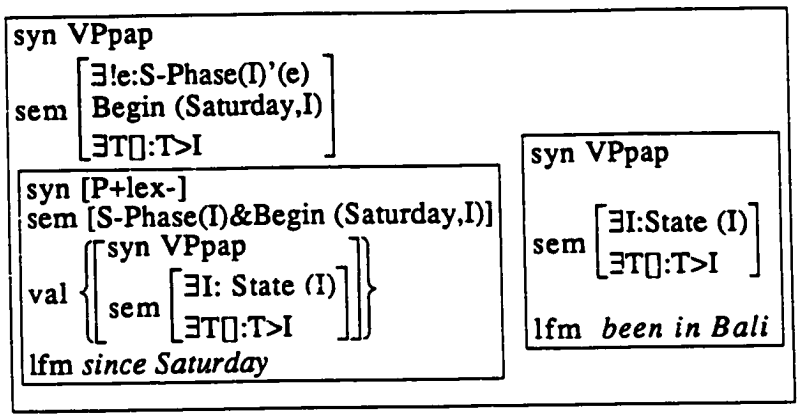


Figure 5.1

In this figure, the perfect-participial VP is depicted in more detail than in figure 3.1. At the topmost level of structure, the participial VP contains a semantic-feature matrix whose value indicates (a) that the VP denotes a state phase which holds for an interval *I*, and (b) that *I* precedes another time, *T*. The state phase, as indicated, represents an event; this event will be assigned a time of culmination by the perfect construction. The function *Begin*, contributed by the semantic feature-matrix of the *since*-adverbial construction, assigns a lower boundary to this interval: Saturday. The time labeled *Saturday* is contributed by the argument-expression of the *since*-adverbial construction. When the structure shown in 5.1 unifies with the perfect construction (cf. section 3.7), the value of *T*, which is unspecified in 5.1, will be identified with the time of culmination *t* specified by the perfect construction. I will maintain below that a conventional implicature attached to the continuative-PrP construction ensures that the time of culmination is viewed as a time immediately before the reference time (represented as *t'* in figure 3.1). Figure 5.2 shows the unification of participial VP and *since*-adverbial expression for sentence (5.31b):

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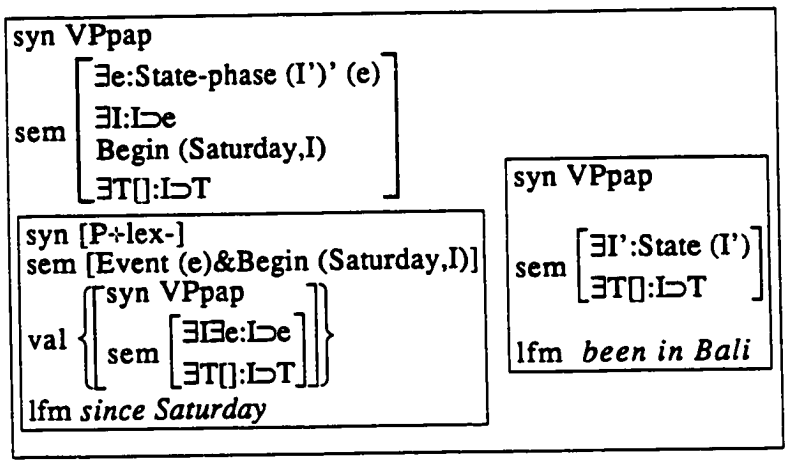


Figure 5.2

In figure 5.2, as in figure 5.1, the *since*-adverbial construction establishes the existence of an interval (*I*) whose lower boundary is Saturday. This interval is not, however, the time at which a state phase holds, but a time within which an event occurs: the event denoted by the participial VP is properly included in the interval *I*. The event in this case is a state phase, which holds for an interval *I'*: *Harry be- in Bali.* The interval *I*, in turn, properly includes the interval *T*, which, as in 5.1, will be anchored to the culmination time specified by the perfect construction. The topmost sem value of 5.2, like that of 5.1, contains an existentially quantified event variable. In 5.2, however, the quantifier does not bind a unique individual: sentence (5.31b) can be used when Harry has made several visits to Bali prior to now.

In section 4.2.1.2, I pointed out that durational adverbs (e.g., *for two hours*) overlap functionally with *since*-adverbial expressions: durational adverbs may also specify the length of a state phase which obtains through to the present time. In this capacity, durational adverbs co-occur with the continuative PrP. Consider the following examples:

(5.32) a. Myron has been upset for an hour.

b. Myron has been upset since three.

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As shown in (5.32), durational adverbs differ from *since*-adverbial expressions in that the former denote an expanse of time occupied by a state phase, while the latter denote only the lower boundary of that expanse—the upper boundary being fixed by reference time (i.e., speech time in the case of (5.32b). Therefore, (5.32b) is synonymous with (5.32a) only if the former is uttered at four o'clock. As we saw in section 4.2.1.2, *since*-adverbial expressions like that in (5.32b) require that an unspecified upper boundary be fixed by a reference time distinct from the time of inception of the denoted state phase. Durational adverbs, which refer to a temporal expanse rather than a temporal boundary, do not have this requrement. Therefore, durational adverbs are compatible not only with the continuative PrP but also the preterite:

(5.33) Myron sat on the porch for an hour.

Durational adverbs may be said to scope tenseless state propositions. The tenseless state proposition may be expressed by a past participle, as when the state proposition represents the VP complement of the perfect construction. Figure 5.3 shows the unification of VP-complement and durational adverb for (5.32b):

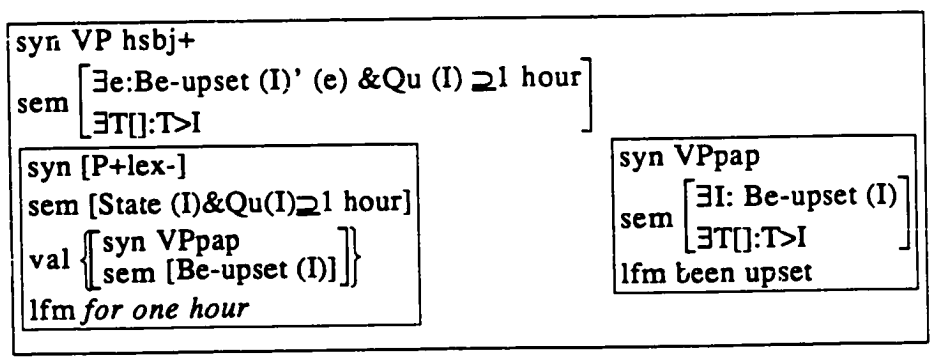


Figure 5.3

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In figure 5.3, the durational-adverb construction is depicted as an individuating operator, which requires a state proposition as an argument. As shown by the topmost semantic feature-matrix, the unified structure represents an event predication. The event represents a bounded state, one to which a particular duration (one hour) is assigned. This event will be assigned a time of culmination by the perfect construction. The time will unify with *T*. A conventional implicature attached to the continuative PrP ensures that the reference time, *t'*, will be a time immediately following *T*.

Durational adverbs are not polysemous in the way that *since*-adverbials are. While durational adverbs specify the length of time occupied by a state phase, they do not have an 'existential reading', in which some number of events are located within the period denoted. Therefore, sentences like the following are anomalous:

(5.34) *Larry has visited us twice for the last three years.

In (5.34), the three-year period must be denoted by an *in*-headed expression of temporal extent. While *for*-headed durational adverbs do not have an existential reading like the comparable reading of *since*-adverbials, they can co-occur with the existential PrP. As we saw in the previous section, sentences like (5.26) are ambiguous between continuative and existential readings. Sentence (5.26) is repeated below, along with the relevant readings:

(5.26) Harry has been in Bali for two days.
continuative: Harry's presence in Bali obtains for all times within a present-inclusive time span whose lower bound is two days ago.
existential: There were one or more visits to Bali by Harry within a present-inclusive time span; each of these visits lasted two days.

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Dowty (1979) and Mittwoch (1988), among others, argue that the ambiguity exemplified in (5.26) involves the relative scopes of *Have* (the perfect operator) and the durational adverb. Mittwoch represents this scope ambiguity in the following way:

(5.35) a. existential: Pres $_{(w,i)}$ [Have [(for two days (Harry be in Bali)]]

b. continuative: Pres $_{(w,i)}$ [for two days [Have (Harry be in Bali)]]

Evidence for this scope ambiguity is provided by the fact that when the durational adverb is preposed, (5.26) has only the continuative reading (*For two days, Harry has been in Bali*). The preposing is here said to reflect the wide scope of the durational with respect to the perfect operator. However, Heny (1982) argues that the scope assignment given in (5.35b) is not plausible. His argument is based on the truth conditions which he assigns to the perfect, which require that the base sentence be true at a *nonfinal* subinterval of the interval for which the perfect sentence itself is evaluated. If the overall interval is an present-inclusive past period, the base sentence (*Harry be- in Bali*) must be true at some time prior to now. In the case of (5.35b), 'now' is a two-year interval, and each subinterval of that period is an evaluation time. As a consequence, at each subinterval of the two-year period, the proposition *Have* (*Harry be- in Bali*) must be true at some nonfinal subinterval.

Heny points out, however, that there are moments (singletons) among the subintervals of the interval denoted by a durational adverb, and a singleton cannot be said to have a nonfinal subinterval. Mittwoch overcomes this objection by dropping Heny's 'nonfinal' condition from the truth conditions for the perfect. Nevertheless, there remains a cogent argument against the scoping given in (5.35b): durationally bound state-propositions (in this case, *for two days* [*Have* [*Harry be in Bali*]]) cannot, as required here, be evaluated for the present moment. Bounded-state propositions like *Moe be- in the basement for an hour* are like event predications in that they lack the subinterval property: no subinterval of Harry's being in the basement for ten minutes is an instance of that whole episode. Since

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speech time is conceived of as an instant by convention, and since events are not instantiated at any single moment of the interval in which they occur, to assert the existence of an event is to report its culmination. Therefore, in English, neither event predications nor bounded-state predications are amenable to present-tense reporting, e.g., **Harry is ill for two days* (cf. section 1.2.2.2).

Mittwoch's scope analysis of the continuative PrP requires that the interpreter evaluate the truth of a tenseless state-phase proposition (*Have* [*Harry be in Bali*]) for speech time. However, as we saw above, speech time is a moment, and an event proposition cannot be said to be true at a single moment alone. Therefore, (5.35b) is ill formed, and the ambiguity exemplified in (5.26) should not be treated as a scope ambiguity. Instead, the continuative can be assigned the same scoping as the existential. The ambiguity exemplified in (5.26) will then reside in the distinct semantic representations accorded the two perfect types: the existential indicates the existence of one or more events within a present-contiguous time span; the continuative indicates the cessation at speech time of a phase of a state.

A logical representation for the continuative PrP, based upon Parsons' formalism (1990), is given in (5.36):

(5.36) ∃!e: State-phase (t)' (e) & Culminate (e, t') & 't' is immediately prior to now'

This representation states that there is a unique event which represents a state phase, that this state holds for an interval *t*, and that the event culminates at *t'*. The statement in single quotes is meant to represent a conventional implicature: the time at which the state phase ends (i.e., the time at which the corresponding 'pofective event' culminates) is a time 'just before' speech time. Notice that (5.36) presupposes the definition of *state phase*: "a period *t* is a phase of a state *S* just in case *S* holds at *t* and *t* is not properly included in a period *t''* at which *S* holds as well" (Herweg 1991b:992). We saw in section 1.3.3.3 that

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this definition is problematic, since state-phase predicates accompanied by a durational expression are upward compatible. For example, the sentence *Harry was sick for at least a week* implies that the period during which Harry was ill in fact exceeded a week's time.

Herweg's definition of state phase entails that the state cannot obtain for times other than those for which it is asserted to obtain. However, we know that speakers may highlight phases of a state that are in fact properly included within some larger period during which that state holds as well. In section 1.3.3.3, I suggested the following revised definition of *state phase*: 'a state phase is a period during which a state holds, where any period properly including that period is outside the speaker's immediate focus of attention'. The revised definition gives us a better result when we attempt to describe sentences like the following:

(5.37) Paul's been living in Boulder since at least 1989.

In the case of (5.37), we must account for the speaker's intuition that the state of Paul's living in Boulder will probably continue past now, and may have obtained prior to 1989. Given the revised definition of state phase, we can say that a person choosing to utter (5.37) is directing his or her attention to a single period at which a state holds, while disregarding times outside that period at which the state may hold as well.

While (5.36) presupposes the definition of state phase, the definition of state phase in turn presupposes the definition of state, which in most formal models involves universal quantification: 'if *S* is a state which holds at time *t*, all subintervals of *t* are also times at which *S* holds as well'. Accordingly, McCawley (1971, 1981), refers to the continuative PrP as the 'universal perfect'. The continuative PrP is said to indicate that all times within a present-inclusive interval are times at which the denotatum of the VP complement holds. McCawley's definition provides a clear explanation for the fact that, as noted in section

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4.2.2.2, the existential and continuative PrPs are synonymous under negation. Consider sentence (5.38):

(5.38) Nobody has told me the truth.

Sentence (5.38) has the following equivalent readings: (a) universal: for all times within some present-inclusive time span, the base sentence *nobody tell- me the truth* holds, and (b) existential: there are no times within a present-inclusive time-span such that the base sentence *someone tell me the truth* holds.

I will represent the semantic structure of the existential as in (5.39):

(5.39) ∃e: Event (e) ∃t: t<now Culminate (e, t) & 'the event type is one which is replicable at the present moment'

In (5.39), the existential quantifier binding event and time variables allows for multiple instantiations of a given event. As a consequence, this formula does not evoke a unique time of occurrence. The temporal variable is simply restricted to times prior to now, although a lower-boundary specifier like *since noon* may further restrict the range. All events must instantiate an event type which fulfills the 'present-possibility' requirement. McCawley (1981:82) describes the requirement as follows: "the speaker and addressee's shared knowledge does not rule out the continued occurrence of events of the kind in question". This requirement is represented here by the material in single quotes; it is viewed as a conventional implicature. McCawley demonstrates the existence of this constraint by means of examples like (5.40):

(5.40) a. Have you seen the Monet exhibition?

b. Did you see the Monet exhibition?

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McCawley observes that (5.40a) is appropriate only given a situation in which an event of exhibition-visiting by the addressee is still possible. That is, the exhibition is still open and the addressee is capable of viewing it before it closes. If the exhibition is closed or the addressee is not in a position to see it, only the preterite-form question (5.40b) is appropriate.

The acceptability of a given instance of the existential PrP will depend upon the extent to which interloctuors can construe the event denoted as one which can still occur. Often, this construal requires some work. McCawley (1971) points out that the widely discussed sentence (5.41) is *a priori* anomalous on an existential reading:

(5.41) Einstein has visited Princeton.

Sentence (5.41) is odd, since Einstein is deceased and thereby no longer capable of visiting any institution. If, however, one construes the event category at issue as containing events of 'Princeton-visiting by a luminary', the sentence is acceptable. This reading is aided by the presence of narrow-focus accent on the subject:

(5.42) [How can you say that Princeton is a cultural backwater?] EINSTEIN has visited Princeton.

The narrow-focus accent evokes the existence of an open proposition 'x has visited Princeton', such that Einstein, as well as living individuals representing current potential vistors, are arguments of this propositional function. This then illustrates that the formal object which corresponds to the event type can be either a full proposition (the addressee visits the Monet exhibit) or a propositional function containing an argument variable whose range is restricted to certain entities (e.g., famous academics). Below we will encounter

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evidence which suggests that the present-possibility constraint is reflected in co-occurrence possibilities for temporal adverbs—possibilities which characterize the existential as against resultative PrP.

We noticed above that the existential PrP co-occurs with cardinal count adverbs like *twice*, which specify the number of instantiations of the event type denoted by the participial VP. Another class of frequency adverbs welcomed by the existential PrP are ordinal count adverbs. Consider the following sentences:

(5.43) a. This is the first time that Mel has ever eaten sushi.

b. This is the second time that Mel has (*ever) eaten sushi.

Sentence (5.43a) specifies that there was one instance of Mel's eating sushi within a present-inclusive time span. The adverb *ever* indicates that the time span lacks a lower boundary—an unlimited array of past times is under consideration. Sentence (5.43b) shows that, in a PrP context, *ever* is incompatible with ordinals greater than one. Why should this be? W. Ladusaw (p.c.) suggests that the time span at issue in sentences like (5.43b) has an implicit lower boundary: the time of the *first* sushi-eating event. Therefore, (5.43b) does not refer to an unlimited range of past times, and *ever* is not acceptable.

5.3.2. The Resultative Perfect

McCawley (1981) and Mittwoch (1988) have suggested that the PrP has two basic readings: continuative and existential. While Mittwoch does not consider the possibility of a resultative reading, this possibility is explicitly rejected by McCawley. Abandoning his earlier claim that the PrP is three-ways ambiguous, McCawley argues that the resultative understanding "should be treated as an existential present-perfect accompanied by an implicature (whether conversational or conventional I do not know) that the event type that is referred to would normally result in the present state of affairs that the speaker conveys is the case" (1981:84). Under this view, a sentence like (5.44) is merely an existential PrP

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accompanied by an implicatum to the effect that a past event of Harry's moving away would ordinarily result in his current absence from the neighborhood:

(5.44) Harry has moved out of the neighborhood.

McCawley reduces the resultative to an existential reading because the resultative reading fails to pass the logical 'contradictory test'. That is, the negative version of a PrP sentence bearing the resultative reading does not express the contradictory of the affirmative version. McCawley (1971) defined the resultative reading as indicating that the "direct effect of a past event still continues" (1981:81). Given this analysis of the resultative reading, we arrive at an odd result concerning negative resultative sentences like (5.45):

(5.45) I haven't broken my arm.

McCawley argues that under his earlier analysis of the resultative, (5.45) could be used to assert that an arm once broken is now healed (i.e., that the direct effect of a past event does *not* continue). This is not, however, a possible reading of (5.45). Sentence (5.45) simply indicates that there was no event of arm breaking within the relevant interval; it is therefore an existential PrP. McCawley's argument to the contrary notwithstanding, I will give the resultative and existential readings distinct semantic representations. In what follows I will show that McCawley's observation about (5.45) can be explained without discarding the assumption that the resultative reading is a distinct reading on the semantic level. In accordance with Parsons (1990), I will represent the resultative reading as follows:

(5.46) $\exists!e$: Event (e) $\exists!t$: t<now Culminate (e, t) & 'e's result state holds now'

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In (5.46), an event is an existentially bound variable described by a predicate indicating the event type. As indicated by the ∃! scoping events and times, there is only one event-time pairing prior to now. The operator *Culminate* pairs the event with its time of culmination. The material enclosed in single quotes represents a conventional implicature; as such, it cannot be cancelled. Consider the contrast in (5.47a-b):

(5.47) a. I put your shoes in the closet, but they're not there now.

b. I have put your shoes in the closet, *but they're not there now.

Both sentences assert that the speaker placed the shoes in a particular location, and implicate that the shoes now reside in that location. In the case of (5.47a), however, the resultant-state implication is akin to a generalized quantity-based implicature: the assertion is relevant and/or informative only insofar as the event described has some present consequences. While the resultant-state implication attached to the preterite-form assertion is *defeasible* (Levinson 1983), that attached to a present-perfect form assertion is not.

The existential and continuative PrPs can have resultant-state implications like that linked to the preterite in (5.47a):

(5.48) a. I've read *De Oratore* three times (so I can explain it to you).

b. I've been ill (so I haven't gotten around to it).

The resultant-state implications attached to (5.48a-b) are evoked by a hearer attempting to discern the relevance of the PrP-form assertion. As we saw in section 4.2.1.1, the sentences in (5.48) can be regarded as instances in which two PrP readings are mutually compatible. For example, (5.48a) has both existential and resultative readings: three reading events have occurred and, as a consequence, the reader now has knowledge of the text in question.

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As noted earlier, the result state whose existence is conventionally implicated by the RPC is not necessarily determined by the linguistic context. The present result which the speaker wishes to call attention to is not always akin to the outcome coded by a telic VP-complement. Sentence (5.28), repeated below, illustrates that resultant states can be computed for PrP sentences which contain atelic VP-complements:

(5.28) I have knocked (so someone should be coming, etc.)

In general, the interpreter of an RPC construct must compute the relevant result on the basis of extralinguistic and linguistic cues (e.g., the outcome, if any, entailed by the Aktionsart of the participial complement). Only lexically encoded end-states will be subject to the defeasibility test applied in (5.47).

McCawley's contradictory test demonstrates that when one negates a resultative PrP, one is negating only the existential assertion that the denoted event occurred. This fact, however, need not be taken as indicating that the resultative reading is reducible to the existential reading. One can instead presume that the resultative interpretation attaches to affirmative sentences only. This constraint has an obvious semantic motivation. In negating the sentence *I have broken my arm*, one necessarily denies the existential assertion. This in turn removes the possibility that the resultant-state implicatum can be satisfied; the resultant state could not possibly obtain, as the requisite causal event did not occur.

As I argued in section 4.2.1, the resultant-state implicatum incorporates a pragmatic variable: it can be viewed as a directive to the interpreter to find in the context, linguistic or extralinguistic, a method of relating the past event denoted to some feature of the present situation characterizable as a consequence of that event. As Li, Thompson and Thompson (1981) observe with respect to the Mandarin perfect marker *le*, the presentation of a present result often represents a demand for action (including a verbal response) from the hearer. Consider, for example, the following sentence:

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(5.49) My car has been stolen.

In (5.49), the absence of the car is evoked as potential catalyst for future action (e.g., phoning the police). The resultant state is that situation which "determines what happens next" (Slobin 1990). That is, the resultant state inferred by the hearer on the basis of the PrP-form assertion is not only the current absence of the car, but also the fact that something must be done about the absence of the car. Since some resultant states represent situations requiring immediate resolution, the felicity of the resultative PrP will often depend upon recency of the participial-VP denotatum vis-à-vis speech time. Notice that (5.49) would not be an appropriate response to a questioner seeking to know, a week or so after the theft, why the speaker is driving a rental car. The resultant state arising from an event may last indefinitely, but represent a temporary situation from the point of view of 'crisis management': the resultant state (*qua* actionable situation) will cease once the interlocutors have determined a strategy for reckoning with the consequent crisis, although the situation which precipitated that crisis (e.g., the absence of the car) may not cease.

5.4. Grammatical Reflexes of Existential-Resultative Ambiguity

As mentioned, the existential and resultative PrP differ in that the RPC (a) cannot refer to a pragmatically presupposed event in, e.g., a content question or cleft (b) rejects temporal modification of event time (c) rejects participial complements denoting event complexes, and (d) does not welcome manner modification of the VP-complement. Let us examine each of these constraints in turn.

5.4.1. Pragmatic Presupposition

According to Lambrecht (1991:1), the pragmatically presupposed component of an assertion is "[t]he set of propositions lexico-grammatically evoked in a sentence which the speaker assumes the hearer already knows or believes or is ready to take for granted at the time of the utterance". For example, in a sentence like *It was Harry who borrowed the*

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rake, an event proposition *Someone borrowed the rake* is pragmatically presupposed. A convenient shorthand to be employed here allows us to refer to the cleft sentence as pragmatically presupposing an *event*, rather than an *event proposition*.

In their anaphoric capacity, past-tense sentences serve to elaborate upon circumstances surrounding a pragmatically presupposed event, i.e., an event previously asserted relative to the reference time in question. An example of the 'elaboration mode' is provided by the second and third sentences of the narrative in (5.50):

(5.50) Hayward police have arrested the prime suspect in last week's string of laundromat robberies. Two off-duty officers confronted the suspect as he left a local 7-11. A back-up unit was called in to assist in the arrest.

Following Kamp and Rohrer (1983:261), we can observe that the second and third sentences in (5.50) "are naturally understood as constituitive of, and thus as temporally included in, the event introduced by" the first sentence. The first sentence, a resultative PrP, is used to inform hearers of the occurrence of the arrest. Subsequent sentences, pragmatically presupposing that event, provide further details about it. The resultative PrP cannot have other than an event-reporting function in narratives like (5.50). Notice the oddity of (5.51) (where # indicates anomaly on the RPC reading):

(5.51) Hayward police have arrested the prime suspect in last week's string of laundromat robberies. #Two off-duty officers have confronted the suspect as he left a local 7-11. #A back-up unit has been called in to assist in the arrest.

The anomaly of (5.51) can be attributed to the restriction stated in (5.52):

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(5.52) The RPC cannot be used to further describe ('elaborate upon') a pragmatically presupposed event.

Both Comrie (1976) and Dinsmore (1981) have proposed versions of (5.52), although both authors fail to recognize, as we will recognize, that this constraint attaches to the RPC rather than to the PrP *per se*. One can see further manifestations of (5.52) in (5.53-5.54):

(5.53) I can't come tonight. I've broken my ankle in a skiing accident.

(5.54) A: My God! Look at that cast!
B: #I've broken my ankle in a skiing accident.

In (5.53), the speaker is both establishing the occurrence of an event (of ankle breaking) and simultaneously providing some information about that event (it occurred during skiing). In (5.54), by contrast, speaker B is responding to an utterance which licenses the assumption that the recent occurrence of a fracture is knowledge common to the interlocutors. The response, therefore, provides further information about that pragmatically presupposed event. As such, it cannot appear in PrP form.

There are certain grammatical constructions dedicated to providing or requesting additional information about a pragmatically presupposed state of affairs. Among these constructions are clefts, as noted, and *wh*-questions. [6] As predicted, neither construction type readily accepts the RPC, as shown in (5.55-5.56):

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6 The resultative PrP is not necessarily incompatible with *wh*-questions requesting information about circumstances surrounding the event denoted by the VP-complement. In particular, we find that *who*-questions like the following are acceptable:

(a) Who has made this terrible mess?

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(5.55) Don't thank ME. #It's HARRY who's selected the wine.

(5.56) #Where have you found my watch?

With specific classes of predicates, nominal definiteness and pronominal anaphora will evoke a pragmatically presupposed event; the RPC will accordingly be proscribed. As Dinsmore points out (1981) one such class of predicates are verbs of creation. When the direct object denotes a unique created item, a PrP denoting an event of creation has a resultative rather than existential interpretation, since a given act of creation is not replicable. An NP invoking an existential presupposition will, when serving as the object of a verb of creation, require pragmatic presupposition of the creation event. Notice the contrast between (5.57) and (5.58):

Here, the *wh*-question is used to request the identity of the agent responsible for the past action denoted, presumably presupposing the open proposition *x made this terrible mess*. Exceptions like (a) may be attributable to a general property of *who*-questions: such questions may require that the addressee accommodate to the relevant presupposition, rather than necessarily exploiting shared knowledge of that presuppositional material. Lambrecht (forthcoming), for example, cites cases like the following:

(b) Who wants a cookie?

The speaker of (b) cannot be said to be accessing the presupposition that someone in fact wants a cookie; the question in some sense simply induces the hearer or hearers to behave 'as if' this proposition were shared knowledge. Similarly, in the case of (a), the knowledge that someone made this particular terrible mess (and that there is in fact such a mess) cannot be said to be shared by speaker and addressee. The utterer of (a) is in fact directing the attention of the addressee to a mess that has not previously come under discussion. In cases in which the event proposition is necessarily shared knowledge, questions about agent identity cannot be expressed by means of the RPC:

(c) #Who has done your hair?

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(5.57) Look! Myron's painted a little picture.

(5.58) #Myron's painted the little picture/it.

In (5.57), the existence of the picture is not presupposed, and therefore the painting event is not presupposed. The PrP can therefore be used to denote the creation event. In (5.58), by contrast, the occurrence of the painting event is established as known to the interlocutors via the existential presupposition linked to the definite or pronominal NP. Sentence (5.58) has the effect of providing further information about a pragmatically presupposed event; the sentence tells us the identity of the painter. The PrP is thereby unavailable in (5.58).

Similar effects are observable among verbs of transfer, where a linguistically uninstantiated recipient role is filled by the speaker. When the theme argument of such a verb is coded by a definite or pronominal NP, this signals that the coded entity is *identifiable*. Recall that an identifiable entity is "one for which a shared representation already exists in the speaker's and hearer's mind at the time of the utterance" (Lambrecht forthcoming). With respect to an item transferred toward the interlocutors, identifiability stems from the availability of that item to the recipients, i.e., its placement at the deictic center. Availability in turn entails that the occurrence of the transfer event is pragmatically presupposed. Use of the PrP is accordingly ruled out in such contexts. Consider (5.59-5.60):

(5.59) How touching. The Millers have sent a fruitcake.

(5.60) #The Millers have sent the fruitcake/it.

In (5.60), as against (5.59), the identifiable nature of the theme argument (the fruitcake) evokes a mutual understanding that a transfer event—one responsible for the accessibility

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of the theme—has occurred. [7] The PrP is ruled out, owing to the fact that (5.60) provides additional information about a pragmatically presupposed transfer event: it identifies the senders.

The restriction given in (5.52) does not rule out sentences like (5.61). This sentence is contrasted with sentence (5.56), repeated here as (5.62):

(5.61) Where have you hidden my watch?

(5.62) #Where have you found my watch?

As we saw, (5.62) is anomalous because it requests additional information about a pragmatically presupposed finding event. Why is the PrP acceptable in (5.61)? In uttering (5.61), the speaker is seeking further information about the resultant state of the hiding event, i.e., where the hidden entity currently resides. In (5.62), by contrast, the location query concerns the past event alone: the discovery site is not construed as the location where the found entity resides at present. *Wh*-questions like (5.61) are acceptable because they are construed as requests for information about circumstances surrounding the resultant state rather than the prior event.

Example (5.63) demonstrates that the constraint given in (5.52) does not characterize the existential PrP:

(5.63) Where have the police arrested the suspect?

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7 The reader is asked to ignore a reading of (5.60) in which the NP *the fruitcake* has a type reading. Since the article in this case would be a generic article, rather than one indicating a uniquely identifiable referent, (5.60) would not presuppose the transfer of the theme to the deictic center. Instead, given a type reading of the NP *the fruitcake*, we would be inclined to see (5.60) as an event-reporting sentence.

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Sentence (5.63) is ruled out on a resultative reading; the sentence cannot be used to inquire about the place of arrest of a suspect now in custody. This sentence is, however, rendered acceptable when an existential reading is invoked: the speaker seeks to locate an array of events in which a particular suspect was arrested. Under this reading, an appropriate response to (5.63) might be: *He has been arrested in Berkeley, in Walnut Creek,* etc. Given that (5.63) is nonanomalous when construed existentially, we are led to conclude that the constraint stated in (5.52) is associated exclusively with the resultative PrP.

This constraint does not appear to be an arbitrary one when we assume that the RPC cannot express anaphoric temporal reference. The nonanaphoric nature of the resultative PrP is shown by the fact that it cannot be used to invoke an extralinguistic temporal antecedent. In section 5.1, we noticed that the preterite—when operating in an anaphoric capacity—may evoke an extralinguistic temporal antecedent. For example, the preterite-form assertion in (5.64) evokes the time of the discourse contribution immediately prior:

(5.64) I didn't hear. I had the water running.

The extralinguistic antecedent may be the time of an event whose ocurrence in the text-external world is thought to be salient:

(5.65) Did you see that huge wasp fly by?

In (5.65), the time evoked by the preterite-form question is not that of a recent discourse contribution, but rather the time of an event which is presumed salient within the shared past experience of the interlocutors. Notice that the RPC is unavailable in the contexts described:

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(5.66) a. #I haven't heard. I had the water running.

b. #Have you seen that huge wasp fly by?

Both (5.66a) and (5.66b) have potential nonresultative interpretations. In (5.66a), the PrP-form assertion is likely to be interpreted as a continuative PrP: the addressee's last discourse contribution is framed as a state phase whose duration is included within the period during which the water was running. In this case, the PrP-form assertion can be parphrased in the following way: *I haven't heard what you've been saying for the past few minutes*. That is, all times at which the addressee was speaking are times at which the water was running. This interpretation is unavailable in a context in which the addressee's inaudible contribution was, say, a monosyllabic response to a yes-no question previously posed by the speaker.

In (5.66b), the PrP-form assertion has a possible existential reading, in which the speaker presupposes that the wasp is a regular visitor, and that one or more sightings have already occurred. In this case, the relevant reading is evoked by the presence of *yet* or *before*. These examples, along with example (5.63), demonstrate that (5.52) does not characterize the PrP *per se*. This constraint is a parochial restriction associated with the RPC.

Although (5.52) has a discourse-pragmatic motivation, viz., the anaphoricity contrast between the RPC and preterite, (5.52) would not be predictable solely from knowledge of this contrast. Sentences like (5.61) show that reference to a pragmatically presupposed event is in fact permitted in content questions which seek further information about present resultant states. Furthermore, knowledge of the anaphoricity contrast would not enable the learner to infer apparently inexplicable exceptions to constraint (5.52). One exception involves *why*-questions. Consider the constrast between (5.67) and (5.68) (noticed by C. Fillmore):

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(5.67) Why have you signed your name in red ink?

(5.68) ?What have you signed your name in red ink for?

It is difficult to understand, *a priori*, why the question in (5.67) should permit the resultative PrP, while the apparently synonymous question (5.68) does not. Constraint (5.52) has exceptions which must be learned; (5.52) therefore cannot be said to fall out automatically from the anaphoricity restriction upon the RPC exemplified in (5.62). Nevertheless, the fact that the RPC is marked as [-anaphoric] provides a reasonable 'after the fact' explanation for (5.52): although not all anaphoric past-time reference involves event elaboration, all instances of 'event elaboration' involve anaphoric past-time reference.

5.4.2. Time Adverbs

While sentences like (5.69a) are unacceptable, sentences like (5.69b) are possible:

(5.69) a. *Harry has visited Rome in 1970.

b. Harry has arrived on Tuesday (before).

Heny argues that the type of adverb exemplified in (5.69b) "has instead of a specific referential significance, which picks out some definite time in the past, a quantificational interpretation". Heny's analysis of (5.69b) is somewhat elliptical, but we can presume that by 'quantificational interpretation' he means an interpretation that is coherent with the semantics of the existential PrP—existential quantification over events and associated times within a present-inclusive time span. As Klein points out (1992:549), adverbs having this interpretation do not "fix a single time span" in sentences like (5.69b). Called 'indefinite time adverbials' [8] by Heny, these adverbs denote a calendrical time that is not unique, but

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[8] The term 'indefinite time adverbial' is somewhat misleading, in that the adverbial class discussed here does not include a number of other adverbs commonly regarded as 'indefinite': *recently*, *before*, *in the*

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recurs at regular intervals: *June*, *three o'clock*, *Winter*. The adverbial refers not to a token of the calendar time but to the type. Thus, the adverbials of (5.69b) might be realized nonspecific indefinite NPs—*on a Tuesday*, etc.

'Cyclic' time adverbials contribute to the characterization of an event type that can recur at present. For example, presuming that Harry is still alive, etc., the event of Harry's arriving on Tuesday can be duplicated on the specified day of the week in which (5.69b) is uttered. Since speech time is the time for which one presumes that replication of the event is possible, speech time must be an interval that is large enough to accommodate any token of the cyclic time specified. In (5.69b), for example, this interval is equated with the current week; the time at which Harry's arrival can be repeated is the Tuesday of this week. Following Parsons (1990), we may represent cyclic adverbs within the logical representation (5.39) by including a clause specifying that all times bound by the existential quantifier belong to a set of 'Tuesdays', 'Noons', etc.

Adverbials like *on Tuesday*, which necessarily have a cyclic or indefinite reading when combined with the PrP [9], are ambiguous in other contexts. In (5.70), for example, the adverb may be interpreted as coding a definite or indefinite time:

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past year. These adverbs, as McCawley (1971) argues, serve to restrict the range of the existentially bound time variable in the case of the existential perfect. Further restriction may be provided by a cyclic adverb. Hence, in *Your TV show has gone on on Tuesday for the past year*, the latter adverb confines times within the range to those within the present year; the cyclic adverb further restricts the airing times to those belonging to the set of 'Tuesdays'.

9 Klein (1992:549), points out an instance in which an adverbial having the potential for a cyclic interpretation fails to have this interpretation when combined with the perfect. Consider (a-b):

(a) Chris has been in New York at Christmas (before).

(b) * At Christmas, Chris has been in New York.

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(5.70) The health inspector comes in on Tuesday.

The present-tense predication in (5.70) is ambiguous between a futurate-present interpretation and a habitual interpretation. On the futurate-present reading, the adverbial *on Tuesday* refers to a definite interval located in the future. On the habitual reading, *on Tuesday* refers to a cyclic time, tokens of which recur regularly. In sentences like (5.69b), *on Tuesday* is unambiguous—only the cyclic interpretation coheres with the semantics of the existential PrP. Therefore, the mere presence of a past-time adverb like *on Tuesday* cannot be regarded as inducing or creating an existential reading of an otherwise vague PrP construct. Such adverbs merely have the potential for an indefinite reading—a potential exploited by the interpreter in reconciling the semantic contributions of PrP construction and time adverb. In the case of the RPC, no such reconciliation is possible—a time adverb like *at noon* can have neither a definite nor an indefinite interpretation. An indefinite reading is not possible because the resultative denotes a unique, nonreplicable past event. A definite reading is proscribed, owing to a constraint which we saw earlier to be idiosyncratic: the time of the event in question cannot be specified. Thus, sentence (5.71) has an existential reading, but not a resultative reading:

(Klein incorrectly stars (a), taking *at Christmas* as necessarily definite.) The anomaly of (b) can be attributed to the wide scope of the time adverbial signaled by its preposed position. The scope in question can be represented in the following fashion: *at Christmas* (*Pres*(*Perf* (*Chris be in New York*))). The operator *Perf* derives a state proposition, which, as shown, must be evaluated for the present moment. This present evaluation time clashes, however, with the past time reference coded by *at Christmas*. Since this adverbial is necessarily within the scope of *Perf* in (a), that sentence is readily interpretable as an existential perfect containing a cyclic past-time adverb.

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(5.71) Harry has walked the dog at noon.

Sentence (5.71) can be used to assert that there have been one or more noontime dog-walking events by Harry within some undefined interval contiguous with the present. On this reading, the sentence conventionally implicates that this event can still occur. Sentence (5.71) cannot, however, be used at two or three in the afternoon to assert the present existence of a walked dog, panting or enervated as a result of having been exercised by Harry at noon that day.

The RPC-based constraint against specification of event time is amenable to a *post hoc* semantico-pragmatic explanation. Since the RPC is [-anaphoric] it cannot be used to 'corefer' with an adverbial 'antecedent'; the RPC cannot usurp the anaphoric function of the preterite. However, the constraint barring a resultative reading of (5.71) appears to be an idiosyncratic one. As noticed by Binnick (1991) and Comrie (1976), among others, this constraint is unique to the English RPC. Comrie observes (p. 54):

> It is not clear that the mutual exclusiveness of the perfect and specification of the time of a situation is a necessary state of affairs in a language. In Spanish, for instance, where the Perfect does have specifically perfect [sc. resultative] meaning, it is still possible to specify exactly the time of the past situation, as in *me he levantado a las cinco* 'I have gotten up at five o'clock' (in reply to a question why I am looking so tired).

While learners might deduce a discourse-functional foundation for the time-specification constraint, that constraint is not a necessary or predictable concomitant of resultative-PrP semantics.

5.4.3. Event Serialization

The RPC cannot be used to assert the occurrence of an event sequence. Consider sentences (5.72a-b):

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(5.72) a. I have cleaned the house and fed the dog.

b. I have (??now) cleaned the house and then fed the dog.

c. *Have* ([I clean the house] and then [I feed the dog])

d. [*Have* (I clean the house)] and [*have* (I feed the dog)]

Sentence (5.72a) is ambiguous between existential and resultative readings. The former reading is brought out by the presence of *before*; the latter reading is evoked by the presence of *now*. [10] Owing to the presence of the conjunction *and then*, sentence (5.72b) has only the existential reading, which is incompatible with *now* in this context. The conjunction *and then* must be interpreted as conjoining the predications denoted by the participial complements: *I clean- the house* and *I feed- the dog*. The interpretation in question is represented in (5.72c). Here, the past event denoted by the conjoined participles represents an event sequence. Accordingly, sentence (5.72b) cannot be used to assert the presence of a clean house and fed dog at speech time. By contrast, (5.72a) can have a resultative interpretation of this sort. This interpretation requires coordination of the type represented in (5.72d). Under a resultative interpretation, (5.72a) codes two distinct assertions about present states of affairs.

One may attempt to account for the constraint observable in (5.72b) by arguing that the reference time of the PrP is the present, and that therefore the PrP is incompatible with the advancement of the reference time required in the description of an event sequence (Partee 1984, Dowty 1986). The validity of this type of account is undermined by the fact that, as

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10 The use of *now* as a method of imposing a resultative interpretation of the PrP is somewhat questionable, as *now* is also compatible with an existential interpretation of the PrP: *Now I've been to Paris twice* (cf. section 4.2.2.1). The reading of *now* intended in (5.72b) is that in which *now* indicates that the consequences of the event sequence denoted obtain at speech time.

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shown in (5.73-5.74), the PrP under an existential reading can be used to refer to an event sequence:

(5.73) Have you ever washed your car and then had it rain?

(5.74) Harry has often had a few too many and then regretted it in the morning.

Sentences (5.73-5.74) are interpreted as asserting (or questioning) the existence of one or more instances of an event complex within a given time span. Thus, the existential perfect can be used to assert the past occurrence of an event complex. The resultative interpretation is compatible only with the assertion of a simplex past event. This constraint is difficult to justify in terms of the resultative semantics represented in (5.46); there is no compelling reason to assume that an event complex cannot yield the requisite resultant state. The constraint barring plural events therefore appears to be an idiosyncratic feature of the RPC.

5.4.4. **Manner Adverbs**

Following Ernst (1987:79), I will describe manner adverbs by means of a predicate-modification rule, described in (5.75):

(5.75) For any adverb modifying a predicate x, there is an entity g which is a property of/aspect of/'something about' the eventuality of x-ing (by the subject) such that ADV (g).

Ernst notes that a number of adverbs, like *appropriately*, may function as either sentence or predicate modifiers: we find both *Appropriately, Carol handled Jay's lawsuit* and *Carol handled Jay's lawsuit appropriately*. In the former case, a contextual norm is computed for possible eventualities. In the latter case, a contextual norm is computed for possible manners of performing the action in question.

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Certain manner adverbs encoding rapidity, like *quickly*, present an apparent problem for this scheme. While *quickly* can refer to the manner in which the agent executed an action (as in *She spoke very quickly*), it can also refer to the speed with which an event culminated following another event. In the latter case, VP-initial position is preferred: *When Marge's unexpected guests arrived, Irving quickly made a quiche* (versus ?*made a quiche quickly*). Here, we need not infer that that making of the quiche involved rapid movements on Irving's part, etc.; we simply adduce that there was a shorter-than-average time lag between the event of the guests' arrival and the point at which the making of the quiche culminated. In such cases, *quickly* appears synonymous with *immediately*.

Therefore, adverbs like *quickly* do not yield unequivocal results with respect to the interaction of RPC and manner modification. Notice that resultative sentences like the following are ruled out:

(5.76) *The committee has quickly rejected my proposal.

If, however, *quickly* in (5.76) is taken to be synonymous with *immediately*, then the anomaly of (5.76) can be attributed to the fact that evocation of an anterior reference-point (i.e., an event prior to the rejection event) is incompatible with the resultative reading of the PrP. As we saw in section 5.4.2, the occurrence time of the complement-verb denotatum cannot be specified. This means that this event cannot be temporally located by means of a past-time adverb like *at noon* or by means of 'indirect' temporal specification: vis-à-vis an anterior past reference point. The adverb *quickly*, on the *immediately* reading, necessarily evokes a point with respect to which the encoded action represents a rapid subsequent development. This point is 'virtually' a reference time for the subsequent event. Accordingly, sentences like the following are anomalous:

(5.77) *I sent in an excellent proposal and those cretins have quickly rejected it.

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Here, the time of bringing in the proposal is the anterior reference point with respect to which rejection represents a rapid eventuality. The anterior event represents a temporal anchor for the event denoted by the PrP. Notice that in the absence of the adverb *quickly*, which establishes a temporal link between the sending and rejection events, the sentence is acceptable. Existential PrPs, which are not constrained by the time-specification constraint, accept manner modification of the *immediately* type:

(5.78) Whenever he has brought in something unusual, the committee has quickly rejected his proposal.

In (5.78), the reference point is the event of bringing in something unusual. The reference-point event may be contextually evoked, in sentences like the following: *Harvard has typically rejected me immediately*. This sentence may be uttered in a situation in which the hearer is aware of a set of time points at which the speaker submitted an application to Harvard; the speaker asserts the rejection occurs immediately after each of the contextually evoked submission events.

It is not clear, however, that *quickly* (on the *immediately* reading) is necessarily incompatible with the RPC. The anterior reference point (with respect to which rapidity of an eventuation is computed) may not explicitly evoke a past time. In such cases, *quickly* is welcomed by the RPC. Consider the following example:

(5.79) The king of pop has quickly become the king of psychobabble.
(Austin *American Statesman* 2/25/93)

This sentence is a reference to Michael Jackson's recent televised revelations of childhood emotional abuse. It evokes an anterior reference point with respect to which the

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eventuation of Jackson's current glossolalic state is a rapid development. This anterior reference point is the time at which Jackson was declared 'king of pop' (at an MTV awards banquet). However, this past reference point is not invoked by a preterite-form predication, as in (5.77). Instead, the intepreter must reconstruct the past reference point on the basis of extralinguistic knowledge or pragmatic accommodation: there was a certain time at which Michael Jackson became the king of pop. That is, the interpreter must evoke a coronation event on the basis of the use of the title *the king of pop* to describe the subject denotatum. That such an inferencing strategy exists is shown by the relative anomaly of sentences like the following:

(5.80) ?The Queen of England has quickly become a figure of ridicule.

Here, the NP *The Queen of England* does not evoke a salient past reference point with respect to which the Queen's present fallen condition represents a rapid development.

Given the possibility that an adverb of the *quickly* class may, when receiving a reading akin to that of *immediately*, welcome the RPC, we have reason to disregard such adverbs when we examine the interaction of the RPC with adverbial manner-modification. Therefore, we will confine ourselves to data like the following:

(5.81) The President has (??angrily) called a halt to the press conference.

(5.82) Judge Wapner has (??loudly) overruled the defense's objection.

As shown in (5.81-5.82), the RPC does not accept the manner adverbs *angrily* and *loudly*. Notice, however, that (5.83-5.84) are acceptable:

(5.83) Whenever Mr. Hume has questioned him, the President has angrily called a halt to the press conference.

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(5.84) Whenever the defense has made that objection, Judge Wapner has loudly overruled it.

Sentences (5.83-5.84) are interpretable only as existential PrPs. That is, the sentences assert that there are a number of eventualites of a given type within a present-contiguous time span, and that these eventualities can be characterized as actions having a particular property.

Adverbs consistently rejected by the RPC are those which Ernst calls 'pure' manner adverbs: a lexicosemantic class comprising adverbs which "represent a quality specifically linked to a certain type of predicate (e.g., those involving sound, movement, etc.)". These adverbs, e.g., *loudly*, are predicate modifiers alone. Other classes of adverbs (e.g., evaluative and agent-oriented adverbs) can serve as both predicate and sentence modifiers. Such adverbs co-occur felicitously with the RPC only when serving as sentence modifers, as shown in (5.85-5.86):

(5.85) Stupidly, Bill has responded to some hecklers.

(5.86) Bill has responded to some hecklers (??stupidly).

In (5.85), the evaluation of stupidity attaches to the event of Bill's responding rather than to some property of his response, as in (5.86). Presumably, acceptance of sentence-adverb modification by the RPC can be attributed to the following fact: in cases like (5.85), the event-descriptor *stupidly* evokes the present consequences of the event denoted. In (5.85), one understands that Bill's responding to the hecklers can be characterized as stupid only insofar as there are undesirable consequences of that event (Bill sacrifices his dignity, etc.). As a predicate modifier, *stupidly* does not faciliate inference related to the present result: one cannot judge *a priori* whether the consequences of Bill's having responded in an obtuse manner are desirable or undesirable. Because predicate modifers describe the event

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per se, they appear at odds with the semantic and pragmatic import of the RPC: to report upon the present consequences of a past event. Manner adverbs are, however, readily accommodated by the existential PrP, which simply asserts the existence of one or more events of a given type; a manner adverb will contribute to the identification of this type.

The constraint barring manner adverbs has some semantico-pragmatic basis: the RPC focuses upon the consequences of an action, rather than the manner in which an action was performed. However, the constraint barring manner modification appears to be an idiosyncractic characteristic of the RPC, since it does not follow directly from the relevant semantics. There is no reason in principle, it seems, that one cannot report upon both the manner of an action and the currently accessible consequences of that action. The constraint barring manner adverbs attaches via convention to the RPC; it is not otherwise inferrable.

5.5. Conclusion

The English PrP does not represent a unitary aspectual construction, but a complex of such constructions. While the PrP encodes what has been termed the 'current relevance' of a past event, current relevance must be subdivided into continuative, resultative and existential varieties: in the case of the continuative PrP, the culmination of a state phase immediately prior to the current moment; in the case of the RPC, the current presence of a resultant state; in the case of the existential PrP, the current replicability of an event. These three varieties of current relevance are regarded as distinct perfect readings, described by the logical representations (5.36), (5.39) and (5.46).

In this chapter, I have proposed that these readings are manifested as distinct grammatical constructions. Evidence for this proposal is provided by grammatical restrictions unique to expressions encoding the resultative reading (5.39). The RPC, as envisioned, will serve as the locus of all idiosyncratic restrictions discussed here: those pertaining to pragmatic presupposition of E, temporal specification of E, 'pluralization' of E and manner modification of E. I have suggested that constraints related to temporal-adverb modification and pragmatic presupposition can be attributed to the discourse-

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pragmatic opposition between RPC and preterite, an opposition which involves the feature [±anaphoric]. I have also argued that all constraints described here can be regarded as instances of a general restriction whereby the RPC fails to unify with constructions which imbue the event denoted by the VP complement with an undue degree of salience vis-à-vis its currently accessible consequences.

The availability of discourse-pragmatic and semantic modes of explanation for the observed constraints should not, however, be taken as evidence that these constraints are predictable or 'follow from' the semantics *a priori*. There is no necessary incompatibility between asserting the current existence of a resultant state and elaborating upon circumstances surrounding the causal event. Furthermore, as we saw in section 5.4.1, the RPC does not necessarily bar anaphoric past-time reference; there are exceptions to constraint (5.52). I presume therefore that the constraints discussed in section 5.4 must simply be learned along with the RPC. This is not to say that the speaker fails to recognize that these constraints have a semantic and discourse-pragmatic basis. In all likelihood, however, this recognition represents after-the-fact inferencing, in the sense of Goldberg 1992b: abductive reasoning applied by speakers attempting to 'make sense' of the input forms. The availability of a semantic motivation, as well as knowledge of a system of discourse-functional oppositions, will serve as a mnemonic aid for the learner attempting to master those constraints upon grammar and usage associated with the RPC.

This case study suggests that there is no necessary distinction between the so-called literal meaning of a construct and the conditions governing the felicitious use of that form in discourse. Here, we have examined two such conditions associated with the RPC. First, the RPC evokes a form of past-time reference that is nonanaphoric. One manifestation of this restriction is the constraint stated in (5.52): the RPC cannot be used to 'elaborate upon' a pragmatically presupposed event proposition. Second, the RPC is typically used only in those contexts in which the resultant state denoted is relevant for the joint determination of immediate goals. An appropriate accounting of these and other use conditions associated

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with the RPC requires an approach in which, as Heny puts it (1982:154), "pragmatic considerations can interact freely with the semantics"—that is, a conception of grammar in which a grammatical construction is a complex of syntactic, semantic and pragmatic features.

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Conclusion

Pursuit of our object of inquiry, the English perfect construction, has taken us from a basic analysis of aspectual meaning to a close inspection of the meanings of a particular tense-aspect combination. I have proposed that the English aspectual system comprises three semantically and functionally defined subsystems: grammatical aspect, situation aspect and phasal aspect. In addition, I have shown that the conceptual classes *event* and *state* are relevant categories within each of these subsystems. Perhaps, therefore, I have provided a more unified analysis of the English aspectual system than that outlined by Smith (1991). In my view, aspectual marking simultaneously expresses both (a) the speaker's categorization of a situation as event or state and (b) the speaker's perspective upon a situation (i.e., 'attention to endpoints'). Therefore, all aspectual subsystems have the same ontological basis. In accordance with Herweg (1991a,b), I have argued that exponents of phasal aspect provide the means by which speakers encode perspectival shifts involving the two situation classes event and state.

The perfect construction, whose categorization within the English tense-aspect system has long been subject to debate, was shown to belong to the phasal system. The perfect provides a stative construal of an otherwise eventive predication. The perfect construction enables a speaker to assert the occurence of an event at time *t* by asserting the presence of a contingent state at time *t+1*. Our investigation of the phasal system suggests that explanation in aspectology must make reference to speaker construal, since one cannot explain the function of the phasal system without referring to the flexible categorization conferred by exponents of phasal aspect (e.g., progressive aspect) and exploited by speakers in the context of narrative. This study has shown, however, that we need not sacrifice explanatory rigor in incorporating the notion of speaker perspective; I have demonstrated that our insights about the nature of phasal aspect can be expressed in a simple formal logic based upon the systems of representation developed by Dinsmore

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(1991), Herweg and Parsons (1990).

We have examined evidence that the meanings of constructs belonging to the system of phasal aspect are expressed by means of grammatical constructions, conventional form-meaning pairings whose semantic, grammatical and discourse-pragmatic features are not predictable from other features of the grammar of the language, or of universal grammar, and which therefore require individualized grammatical description. The grammar of temporal expressions which I have outlined here here diverges from that described by Hornstein (1990). In Hornstein's account, this grammar is a highly general and universal system of constraints. In the present account, this grammar is both English particular and highly specific. We saw, furthermore, that although the constructional approach to the meanings of the various perfect forms (past perfect, present perfect, nonfinite perfect etc.) precludes a compositional analysis of these meanings, the meanings in question need not be regarded as arbitrary, since they are motivated to the extent that the relevant constructions are related to one another by inheritance links (e.g., instance links).

We have looked at the semantico-pragmatic properties of the English preterite, and the manner in which the preterite contrasts with the present perfect. I provided grammatical evidence that the present perfect is polysemous, and showed that on one reading (the resultative reading), the present perfect participates in a discourse-functional contrast with the preterite. While I argued that functional and semantic explanations can be adduced to explain the grammatical and discourse-pragmatic behavior of the resultative present-perfect, I also suggested that these explanations are after-the-fact inferences. The semantic and discourse-pragmatic principles in question do not relieve the learner of the obligation to acquire the resultative present-perfect construction *per se*.

I have suggested that the repertoire of aspectual constructions is a highly structured inventory of form-meaning pairings. This study has addressed three systems which structure the grammar of aspect: (a) networks of inheritance links, which capture formal and semantic overlaps among constructions, (b) the system of discourse-functional

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oppositions, including the anaphoricity-based opposition between the resultative present-perfect and the preterite, and (c) polysemy networks: the three readings of the present perfect provide distinct ways of bridging the gap between past and present.

The present approach, which highlights both construction specific and ecologically based constraints on use and interpretation, provides for both broad-based and fine-grained aspectual analysis. The approach adopted here enables the analyst to acknowledge that aspectual meaning is expressed by means of highly grammaticized and idiomatic forms, while not neglecting a 'macrocosmic' approach, in which the meanings and functions of aspectual constructions are determined within a system of universal semantic contrasts and language-particular discourse-functional oppositions.

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