

# TENSE, ATTITUDES, AND SCOPE

by

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KLUWER ACADEMIC PUBLISHERS

DORDRECHT / BOSTON / LONDON

Studies in Linguistics and Philosophy

Volume 58

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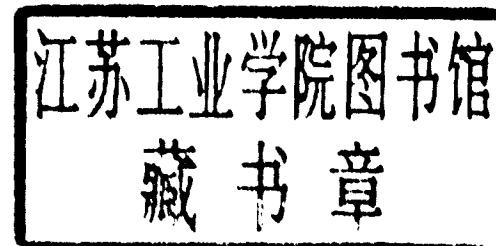
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A C.I.P. Catalogue record for this book is available from the Library of Congress.

ISBN 0-7923-3801-4

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Published by Kluwer Academic Publishers,  
P.O. Box 17, 3300 AA Dordrecht, The Netherlands.

Kluwer Academic Publishers incorporates  
the publishing programmes of  
D. Reidel, Martinus Nijhoff, Dr W. Junk and MTP Press.

Sold and distributed in the U.S.A. and Canada  
by Kluwer Academic Publishers,  
101 Philip Drive, Norwell, MA 02061, U.S.A.

In all other countries, sold and distributed  
by Kluwer Academic Publishers Group,  
P.O. Box 322, 3300 AH Dordrecht, The Netherlands.

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Printed in the Netherlands

*To my parents  
Shozo and Shizue Ogihara*

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## LIST OF ABBREVIATIONS

SYMBOL	NON-ABBREVIATED FORM	USED AS/IN
ACC	accusative case	gloss
Adv	adverb	syntactic category
AdvP	adverb phrase	syntactic category
Adj	adjective	syntactic category
Aux	auxiliary	syntactic category
C/Comp	complementizer	syntactic category
CP	comp(lementizer) phrase (= S')	syntactic category
CRT	clauses that are required to be true	N/A
DAT	dative case	gloss
Det	determiner	syntactic category
fin	finite	feature
fut	future	feature
GB	government and binding	N/A
GEN	genitive case	gloss
IL	Intensional Logic	N/A
Infl	inflection	syntactic category
IP	inflection phrase or INFL phrase (= S)	syntactic category
LF	Logical Form	N/A
M	modal	syntactic category
MP	modal phrase	syntactic category
N	noun	syntactic category
N'	(pronounced) N-bar	syntactic category
NEG	negation	gloss
NML	nominalizer	gloss
NOM	nominative case	gloss

NP	noun phrase	syntactic category
PASS	passive	gloss
Past	past tense	morpheme
PAST	past tense	gloss
Perf	perfect	syntactic category
PerfP	perfect phrase	syntactic category
PF	phonetic form	N/A
Poss	possessive	morpheme
PP	prepositional phrase	syntactic category
Pres	present tense	morpheme
PRES	present tense	gloss
pres	present tense	feature
Pro	pronoun	syntactic category
PRO	"big PRO"	empty category
PROG	progressive	gloss
QR	quantifier raising	rule
RS	result state	gloss
S	sentence	syntactic category
S'	(pronounced) S-bar (= CP)	syntactic category
SOT	sequence-of-tense(s)	N/A
S-str.	S-structure	N/A
T	tense	syntactic category
TAC	temporal adverbial clause	syntactic category
TAdj	temporal adjective	syntactic category
TC	temporal conjunction	syntactic category
TOP	topic	gloss
TP	tense phrase	syntactic category
V	verb	syntactic category
VP	verb phrase	syntactic category
#!Adv	adverbs of the form "exactly <i>n</i> times"	syntactic category
#!AdvP	#!adverb phrase	syntactic category
Ø	null tense	morpheme

## PREFACE

This book is an inquiry into the semantics of tense in natural language. The center of focus will be the behavior of tense morphemes in various embedded constructions, and the data will be drawn from English and Japanese. I will employ a relatively conservative Chomskyan framework for syntax and a truth-conditional model-theoretic approach for semantics. In writing this book, I have tried to make the material covered accessible to people with a variety of backgrounds: formal semanticists, theoretical linguists who are interested in tense-related natural language phenomena, linguists who specialize in Japanese, and philosophers of language with interest in tense and attitude reports. Faced with the difficult and demanding task of addressing a diverse audience, I have done my best to present the ideas in a theory-neutral way. I have tried to make clear the intuitive content of a proposal before presenting a formal version. Efforts have been made to make my proposals translatable into different frameworks. I have also tried not to presuppose extensive training on the part of the reader either in syntax or in semantics. However, I do assume some familiarity with the rudiments of syntactic theory and model-theoretic semantics. To be equipped with the necessary background knowledge, the reader should refer to such introductory textbooks as Haegeman (1994) for syntax and Chierchia and McConnell-Ginet (1990) for semantics.

This work grew out of my doctoral dissertation (Ogihara, 1989). But it has been radically revised, and a great deal of new material has been incorporated into the current version. There are many individuals to thank, but I will be brief. I am grateful to Irene Heim and Hans Kamp, who taught me not only by exploiting their pedagogical skills but by being exemplars of real scholars. I also want to thank Dorit Abusch and Mürvet Enç for their work on tense, which inspired me to work on the same topic, and for the personal contacts that I have had with them.

I also benefited from comments by (and encouragement from) Carl Lee Baker, Maria Bittner, Angelika Kratzer, Manfred Krifka, Mats Rooth, Arnim von Stechow, Corey Washington, Ede Zimmermann, and two anonymous reviewers. I also want to thank my teachers from the earlier stages of my linguistic training: Clifford Abbott, who introduced me to linguistics, and my *sensei* 'teachers' in Japan, Professors Akira Ikeya, Haruhiko Kindaichi, and Akira Ota. I would like to thank my former, current and future colleagues in the department of linguistics at the University of Washington for their encouragement: Michael Brame, Heles Contreras, Ellen Kaisse, Soowon Kim, Cecile McKee, Frederick Newmeyer, and Karen Zagana. I also thank James Lyle, Satomi Honda, and Soohye Kim for editing, proofreading, and other miscellaneous tasks related to the preparation of the camera-ready copy of the manuscript. Thanks are also due to our staff members David Miles and Ruth Honour. I am also grateful to the technical support offered by Stacy Waters at the Center for Advanced Research Technology in the Arts and Humanities. The research that has culminated in this book was partially supported by a graduate school fund granted to the author by the graduate school of the University of Washington, which is hereby gratefully acknowledged.

Lastly, I shall add some personal notes on the topic of this book. In my opinion, natural language phenomena that concern tense provide one of the ideal research areas for formal semanticists. There is a rich philosophical and logical tradition that concerns tense, and the syntax of so-called "functional categories," which include tense morphemes, attracts a lot of attention nowadays. It is an exciting task to bring together the two traditions and produce something new. I also feel that time has a very robust ontological status, despite the popular belief that because we cannot see time, it is not there or is elusive. To those skeptics who do not think that time is formally tractable, I would like to ask: how can you know what time it is if you do not have any idea what time is? I think it is time for me to stop.

#### POSTSCRIPT

This book was produced on a Power Macintosh 6100/60 using Microsoft Word 5.1. The final camera-ready copy was output on Hammermill Laser Plus paper with an HP LaserJet4 with PostScript.

## INTRODUCTION

### 1.1. A PREVIEW: A RELATIVE TENSE THEORY

Most natural language sentences are *tensed* in that they carry with them some information about time. In many languages, this information is indicated by overt morphemes called tense morphemes. In this book, I will be concerned with the semantics of tense in natural language. What are possible tense systems in natural language? What variations are observed, and what accounts for such variations? Are there language universals regarding tense? I will address such questions by paying particular attention to tense morphemes in embedded clauses. This book is also an attempt to conduct "comparative semantics" by drawing examples from English and Japanese. In order to provide the reader with a sense of perspective, let me make a short introductory statement about the theoretical position to be defended in this book.

The temporal interpretation of natural language sentences is a complex matter, as the reader will soon find out. Therefore, it is difficult to state my basic position with respect to tense-related phenomena in simple terms. With this caveat, I propose to call my theory a relative tense theory. The idea behind it is that tense morphemes are interpreted as embedded in the scope of structurally higher tenses. Put in rough terms, what I will claim in this book can be summed up by the following chart:

(1)	English	Japanese	type/meaning
	-s (present)	no correlate	absolute present
	Ø (empty)	-(r)u (present)	relative present
	-ed (past)	-ta (past)	relative past
	have (perfect)	-ta (past)	relative past
	woll (future)	-(r)u (present)	relative future



The English present is indicated by an *-s* ending here, but it surfaces only when the subject is a first person singular NP. The empty tense indicated by “Ø” is not a surface English tense morpheme; it results from the application of the tense deletion rule to be proposed in Chapter 4. The Japanese present is represented here as *-(r)u*, but non-verbal predicates have different endings for the present tense. The English perfect is claimed to be ambiguous between a tense interpretation and an aspectual interpretation, and its tense interpretation is represented here. The morpheme *woll* is the English future auxiliary neutral with respect to tense (Abusch 1988) and surfaces as either *would* or *will*. This theory contrasts sharply with an absolute tense theory, which contends that the interpretation of a tense morpheme is invariably determined in relation to speech time.<sup>1</sup>

I will claim that Japanese is a pure relative tense language in that all tense morphemes are interpreted as embedded in the scope of structurally higher tenses. The English tense system is more complex in that it is basically a relative tense language, but the simple present behaves like an absolute tense. I am aware that this non-symmetric treatment of the English tense system is controversial, and I will defend it in the course of this book. At the end of Chapter 6, I will return to this general theoretical perspective, re-evaluate my general claim about the tense systems of English and Japanese, and propose a typology of tenses on a preliminary basis.

## 1.2. THE BASIC TENSE FORMS AND THE MAIN ISSUES

In this book, I will adopt a model-theoretic approach to investigate English and Japanese. I would like the reader to keep in mind, however, that the theoretical claims to be made in this book are meant to be applicable to natural languages in general. English and Japanese are among the languages that have overt tense morphemes. Consider examples (2a) and (2b).

- (2) a. The building collapsed.  
 b. Biru-ga tubure-ta.  
 building-NOM collapse-PAST  
 ‘The/A building collapsed.’

(2b) is a Japanese sentence that has approximately the same meaning as English example (2a). Both (2a) and (2b) describe an event that took place in the past relative to the speech time. As in many other languages, the tense morphemes in English and Japanese are verbal affixes.<sup>2</sup> In English the verbal suffix *-ed* is used as a past tense morpheme as in (2a). In Japanese, the verbal suffix *-ta* fulfills a similar function as in (2b). (2a) and (2b) show that both *-ed* and *-ta* can be used in simple sentences to describe events (or states) that obtained in the past relative to the speech time.<sup>3</sup>

Consider next the so-called present tense morphemes in English and Japanese found in the following data:

- (3) a. John is here.  
 b. John-wa koko-ni i-ru.  
 John-TOP here-at be-PRES  
 ‘John is here.’

Both (3a) and (3b) can describe the state of John’s being here at the utterance time. Thus, just as in the case of past tense, the English present and the Japanese present can describe the same state of affairs.

One major difference between English and Japanese with respect to tense shows up with respect to future time reference. English has a future auxiliary *will*, which serves as a future tense as in (4).

- (4) John will come here (tomorrow).

On the other hand, Japanese has no overt future tense morpheme. Instead, the so-called present tense morpheme *-(r)u* is also used for future time reference. This is illustrated by (5).

- (5) John-wa asita Tookyoo-e i-ku.  
 John-TOP tomorrow Tokyo-to go-PRES  
 ‘John will go to Tokyo tomorrow.’

As the English translation shows, (5) is used to describe an event that obtains at a future time. This means that the so-called present tense morpheme in Japanese is ambiguous between a “present tense meaning” and a “future tense meaning.”<sup>4</sup> Since no overt morpheme distinguishes between the two meanings, it is sometimes claimed that

-(*r*)*u* is a non-past tense. However, this claim is slightly misleading because the semantics of -*ru* cannot be accounted for in terms of vagueness. That is, we cannot say that the meaning of some specific occurrence of -*ru* is vague as to whether it refers to the current time or to a future time. Consider (6), which is a stative sentence with no overt adverbial. It cannot be used to assert that John is here at some non-past time. The speaker must decide whether a claim is being made about the current time or about some future time. That is, (6) is genuinely ambiguous between the two meanings indicated by the English glosses.

- (6) Taroo-ga koko-ni i-masu.  
Taro-NOM here-at be-PRES  
'Taro is here now' or 'Taro will be here.'

For example, (6) can be used as in (7a) to refer to a current state, but it can also be used to refer to a future state as in (7b).

- (7) a. Kore-wa hisyositu desu.  
This-TOP secretary-office be-PRES  
Taroo-ga koko-ni ima-su.  
Taro-NOM here-at be-PRES  
'This is the secretary's office. Taro is here.'
- b. Asita kite-kudasai.  
tomorrow come-please  
Taroo-ga koko-ni ima-su.  
Taro-NOM here-at be-PRES  
'Please come [visit us] tomorrow. Taro will be here.'

Given that the Japanese present is ambiguous between the two interpretations, it is safe to assume that the three-way semantic distinction among the past, present and future tenses exists in both English and Japanese.

The English present also can be used to describe future events. For example, sentences like (8a–b) are acceptable (Dowty 1979:155). Dowty calls this usage of the present 'tenseless future'. It is restricted to planned events, such as those exemplified by (8a–b). (8c) is anomalous because weather conditions cannot be planned in advance.

- (8) a. Tomorrow, the Yankees play the Red Sox.  
b. John leaves town tomorrow.  
c. ?It (undoubtedly) rains tomorrow.  
d. It will (undoubtedly) rain tomorrow.

The Japanese simple present is different in this regard. It must be used for future time reference regardless of whether what is described is planned or not. That is, (9a) is acceptable, and so is (9b). Since the 'tenseless future' use of the English present is found only in a restricted set of situations, I will not discuss it any further in this book.

- (9) a. Asita-wa (zettai) ame-ga furi-masu.  
tomorrow-TOP surely rain-NOM fall-PRES  
[Lit.] 'It (surely) rains tomorrow.'
- b. Asita Marinaazu-wa Yankiizu-to  
tomorrow Mariners-TOP Yankees-with  
siai-o si-masu.  
game-ACC do-PRES  
[Lit.] 'Tomorrow, the Mariners play the Yankees.'

At this point, let us shift our attention to embedded clauses. It turns out that the tense morphemes in English and Japanese behave in completely different ways there. This is surprising given that in simple sentences no fundamental difference was found between the two tense systems. First, consider (10a–b), which involve verb complement clauses.

- (10) a. John said that Mary was in Seattle.  
b. Taroo-wa [Hanako-ga Siatoru-ni i-ru]  
Taro-TOP Hanako-NOM Seattle-in be-PRES  
to it-ta.  
that say-PAST  
'Taro said that Hanako was in Seattle [at that time].'  
[simultaneous reading only]

A striking difference between English and Japanese is found here with respect to the behavior of tenses. (10a) can be interpreted in two ways. Its default interpretation is that the time of Mary's being in Seattle is simultaneous with John's saying. Let us refer to this as the

*simultaneous interpretation*. The other reading, which is forced upon us by an adverbial like *a week earlier*, is that the time of Mary's being in Seattle is earlier than John's saying. I will call this the *shifted interpretation*. By contrast, (10b) has only one interpretation: Taro said in the past that Hanako was in Seattle at that time. The interpretation of (10b) equals the default interpretation of (10a). Despite this fact, they have different tense morphemes in their complement clauses: a *past* tense morpheme is used in the English example (10a), whereas a *present* tense morpheme is used in the Japanese example (10b). In English, when a verb is in the past tense, its complement clause must be in the *past* tense in order to receive a simultaneous interpretation. This fact is surprising not only because many languages in the world such as Russian (Comrie 1985:109) and Polish (Maria Bittner, personal communication) are like Japanese in that a present tense in a verb complement clause embedded under a past tense receives a simultaneous reading; it is surprising also because it is hard to justify this fact semantically. Suppose that tenses are interpreted either with respect to structurally higher tense morphemes or independently. If the embedded past tense in (10a) is interpreted with respect to the speech time, then we would expect that it could denote any past time. However, this is not the case because (10a) cannot describe Mary's being in Seattle at some time between the time of John's saying and the utterance time of (10a). On the other hand, if we assume that the past tense is interpreted in relation to the time of John's saying, it follows that this tense cannot refer to the time of John's saying. By definition, the time of John's saying is not earlier than itself. Hence, it is very hard to explain why (10a) can receive a simultaneous interpretation. Adopting the traditional terminology, we will refer to the fact that the verb complement clause of (10a) is in the past tense and receives a simultaneous reading as a sequence-of-tense (SOT) phenomenon.

One possible account of the phenomena is provided by Enç (1987), who claims that some tenses behave like anaphoric pronouns. Enç's system allows the tense in the complement to be bound by the tense in the matrix, thereby yielding a simultaneous reading. If empirically adequate, Enç's proposal enables us to forgo the SOT rule. We will examine her proposal in detail in Chapter 3 and show that it does not account for more complex examples of the SOT phenomena, such as (11) (Abusch 1988).

- (11) John decided a week ago that in ten days at breakfast he would say to his mother that they were having their last meal together.

(11) can receive an interpretation where the time of his saying to his mother is simultaneous with the time of their having their last meal together. I will show in Chapter 4 that a proposal that incorporates an SOT rule accounts for this interpretation of (11). What I will propose there is based upon the ideas expressed by traditional grammarians such as Curme (1931) and by modern syntacticians such as Ross (1967). Informally and crudely put, the SOT rule encodes the idea that in English a past tense that occurs "in the scope" of a higher past tense can be treated as if it is semantically empty.<sup>5</sup> I will claim that Japanese lacks this rule and that this constitutes a major difference between English and Japanese with respect to temporal phenomena.

The tenses in English and Japanese also differ with respect to their behavior in relative clauses. Consider the following examples:

- (12) a. John met a man who is smoking over there.  
 b. John met a man who was smoking.  
 c. John-wa tabako-o sut-te i-ru  
 John-TOP cigarette-ACC smoke-PROG-PRES  
 otoko-ni at-ta.  
 man-DAT meet-PAST  
 'John met a man who is smoking (now).' or 'John met a man who was smoking (at the time of the meeting).'  
 d. John-wa tabako-o sut-te i-ta  
 John-TOP cigarette-ACC smoke-PROG-PAST  
 otoko-ni at-ta.  
 man-DAT meet-PAST  
 'John met a man who was smoking.'

(12a) can only mean that John met a man who is smoking now (at the speech time of (12a)). On the other hand, its literal translation into Japanese, (12c), has two interpretations: an interpretation equivalent to (12a) and the other interpretation where the time of the man's smoking is simultaneous with John's meeting him. In fact, the latter interpretation is more salient than the former; the former can be obtained by adding an appropriate adverbial, such as *ima* 'now' for the

embedded event and *kinoo* 'yesterday' for the matrix event, as in (13).

- (13) John-wa ima asoko-de tabako-o  
 John-TOP now over there-at cigarette-ACC  
 sut-te iru otoko-ni  
 smoke-PROG-PRES man-DAT  
 kinoo miti-de at-ta.  
 yesterday street-at meet-PAST  
 'Yesterday John met on the street the man who is now  
 smoking over there.'

On the other hand, when the relative clause is in the past tense as in (12b) and (12d), it looks as though there is no difference between the two languages. In Chapters 4 and 5, I will assume that tenses are in general interpreted in relation to local commanding tense morphemes at LF and that English has an SOT rule but Japanese does not. Then, I will show that the data are accounted for if we adopt an independently motivated mechanism for NP scoping (Montague 1973, May 1977). For example, we can account for the two readings of (12c) by assuming that the relative clause NP can have either wider or narrower scope with respect to the main clause tense, which I assume to bear sentential scope. This allows us to predict that a relative clause NP can receive two or three readings depending upon the scope property of the NP and the applicability of the SOT rule. This theory predicts for examples like (12b) and (12d) some readings that are redundant (i.e., those that entail other legitimate readings), but they are harmless. The theory has one apparent empirical problem; it predicts that (12a) can receive the simultaneous reading associated with (12c), but this reading is in fact unavailable. I will posit a special proviso to account for this fact: the English present *always* makes reference to the speech time. It turns out that this special treatment of the English present is required to account for so-called double-access sentences.

The strength of this proposal is that it accounts for examples like (14). That is, if we simply assumed that tense morphemes in relative clauses are interpreted as unembedded, we would fail to predict some crucial data that involve multiple embeddings.

- (14) John said a week ago that in ten days he would buy a fish  
 that was still alive.

(14) can receive a reading in which the time of the fish's being alive is simultaneous with the time of John's buying it. This reading can only be obtained if we assume that the relative clause is treated as a tenseless clause and is interpreted in relation to the time of buying the fish. In terms of my proposal, this means that the tense in the lowest clause gets deleted by the SOT rule, and the resulting "empty tense" is interpreted in relation to the intermediate tense. Note here that the intended interpretation requires that the time of the fish's being alive be in the future relative to the speech time and is independent of the reading associated with the maximal scope for the tense in the relativized NP.<sup>6,7</sup> This shows that an SOT rule is absolutely essential. In sum, I will propose the following account of the relative clause facts in English and Japanese: NPs are subject to scoping, and tense morphemes are interpreted in relation to local commanding tenses. The difference between English and Japanese results from the fact that English has an SOT rule, whereas Japanese does not. As mentioned above, the fact that (12a) cannot receive a simultaneous reading is accounted for by the assumption that the English present invariably denotes the speech time.

In Chapter 6, I will discuss so-called double-access sentences, which are problematic for the proposal I will defend in Chapters 4 and 5. Sentences like the following have a peculiar interpretation:

- (15) Taro said that Hanako is in Seattle.

(15) is grammatical and meaningful, but its interpretation is different from the Japanese sentence (10b), which is a literal translation of (15). (15) is a "double-access" sentence in that Mary's being in Seattle "has access" to both the speech time of (15) and the time of John's saying. On the other hand, (10b) has a purely simultaneous reading. I will argue that (15) is an instance of a *de re* attitude report about a state. Note that in (15) a present tense occurs in the complement clause and a past tense in the matrix clause. This pattern is also found in a sentence like (16), assuming that *will* is the present tense form of the future auxiliary.

- (16) Bill looked for someone who will be leaving.

Ladusaw (1977) discusses examples like (16) and observes that a *de*

*dicto* reading for the NP *someone who will be leaving* is possible. However, this is problematic for his proposal. His theory predicts that *will* is interpretable only if it is outside the scope of a past tense. This requires that the NP have matrix clause scope. However, this also means that the NP must receive a *de re* interpretation. Therefore, Ladusaw's theory does not do justice to his own intuition. I will show that this puzzling fact can also be accounted for as an instance of a *de re* attitude report. To be more precise, it is rendered as a *de re* attitude report about an interval (or an event).

### 1.3. THE DISTINCTION BETWEEN TENSE AND ASPECT

It is hard to distinguish between tense and aspect clearly, but the following definition by Comrie (1976:1–3) gives us a good intuitive feel for the difference between the two concepts: “tense relates the time of the situation referred to to some other time, whereas aspects are different ways of viewing the internal temporal constituency of a situation.” In the tradition of formal semantics, it is assumed that a sentence is either true or false depending upon the time of evaluation (and also the world of evaluation). Given this perspective, a tense morpheme can be regarded as any expression that serves to affect the time of evaluation for a sentence without changing its “propositional content.” On the other hand, aspect morphemes affect the “propositional content” itself. This semi-formal definition is vague, but it helps us decide whether some morpheme is a tense morpheme or an aspect morpheme. In this book, I will only discuss tense morphemes and will reserve the discussion of aspectual morphemes for another occasion.

The English progressive and its alleged counterpart in Japanese *-te iru* are excluded because intuitively they are aspectual morphemes. However, linguists are divided as to whether the English perfect is a tense marker or an aspect marker. I will argue that it is ambiguous between a preterit meaning and an aspectual meaning. At first sight, the perfect is like the simple past in that it serves to locate an event in the past in relation to the speech time. But there are differences between the two constructions. In the linguistic literature that falls outside the formal semantic tradition, the perfect is often treated as an

aspectual construction (e.g., Comrie 1976). This is because a present perfect sentence requires some type of “current relevance” of the event or state described by the sentence. Consider the following sentence:

- (17) John has lost his book.

At least in its most salient reading, its truth requires not only that John's losing his book obtain in the past but also that the book have not turned up yet as of now. This “current relevance” reading of the present perfect is obligatory in tensed clauses. It is characterized by the fact that it does not allow co-occurring adverbials that denote definite past intervals, such as *yesterday*, *last month*, *two years ago*, etc. (McCoard 1978, Dowty 1979). That is, (18a–b) are grammatical, whereas (18c–d) are not.

- (18) a. John lost his ticket last month.  
b. John graduated from college two years ago.  
c. \*John has lost his ticket last month.  
d. \*John has graduated from college two years ago.

Henceforth, we will refer to this reading as an aspectual reading of the perfect.

I will argue in what follows that the perfect can receive an interpretation that is semantically identical with the interpretation of the simple past. Various forms of the perfect other than the present perfect in tensed clauses can occur with temporal adverbials that denote definite past intervals. In these cases, the perfect plays the same role that the simple past does in finite clauses. Consider the following data (Stump 1985:223, 230):

- (19) a. Having been on the train yesterday, John knows exactly why it derailed. [free adjuncts]  
b. Mary may have played the piano yesterday. [unmarked infinitival complements]  
c. Bill seems to have slept yesterday. [marked infinitival complements]  
d. He said that Mary had been reading books yesterday. [the past perfect]

Note that the adverb *yesterday*, which denotes a definite past interval, is allowed to occur in (19a) through (19d) and restricts the temporal location of each event. I take this to be solid evidence for the claim that the perfect can be used as a preterit. This does not mean, however, that the perfect must be used as a preterit when used in constructions like those exemplified by (18a–d). When there is no accompanying adverbial that clearly denotes an interval earlier than the “point of reference,” the perfect in these constructions can also be used for the aspectual interpretation. This can be supported by the fact that both (20a) and (20b) entail (20c).

- (20) a. John said, "I lost my ticket."  
b. John said, "I have lost my ticket."  
c. John said that he had lost his ticket.

The direct quote in (20a) by definition can only have a preterit interpretation. We assume that the direct discourse (20b) can only have an aspectual interpretation because it is a finite clause in the present perfect. Thus, we can conclude that (20c) is ambiguous between an aspectual interpretation and a preterit interpretation. In this book, I will be concerned only with the preterit interpretation of the perfect.

The contrast between the two readings of the perfect can also be substantiated by discourse examples. The past perfect can be used in an extended discourse for two different readings, and the ambiguity thesis is clearly vindicated here. Consider the following two narrative discourses. E, S, and ST stand for “event,” “state,” and “speech time,” respectively.<sup>8</sup>

- (21) John arrived at the airport at nine.  
 $E_1$   
*He had left home two hours earlier.*  
 $E_2$   
 He had met a friend of his on his way to the airport.  
 $E_3$
- 
- $E_2$        $E_3$        $E_1$       ST       $\rightarrow$

- (22) John arrived at the airport at nine.  
 $E_1$   
*Mary had already arrived there.* He smiled at her.  
 $S_1$   $E_2$
- 
- $E_1 S_1 E_2$  ST  $\rightarrow$

Two temporal points separated from each other in the graphic representations indicate that there is some non-trivial temporal distance between them; two points that are adjacent to each other indicate extreme temporal proximity. The first occurrence of the past perfect in (21) induces a flashback effect. The past perfect here serves to introduce a new time located earlier than the time of John's arriving at the airport and to assert that John's leaving home obtains at this time. The second occurrence of the past perfect describes an event that occurs after his leaving home, but before his arrival at the airport. The past perfect in (22) has a different flavor. Intuitively, the second sentence describes the "result state" of Mary's arriving at the airport, i.e., Mary's being at the airport. Although the italicized sentence *does* say that the time of Mary's arrival is located before John's arrival, this is not the main assertion made by the sentence. The main assertion is that Mary was already there when John arrived, and this is indirectly indicated by a result state of Mary's arriving at the airport (i.e., Mary's being at the airport) that obtains at the time of John's arrival.

The two interpretations of the perfect exemplified by (21) and (22) are overtly distinguished in Japanese. As (23) and (24) show, (21) and (22) translate into Japanese discourses that involve different constructions. (21) translates as in (23).

- (23) Taro-wa ku-zi-ni kuukoo-ni tui-ta.  
Taro-TOP nine-o'clock-at airport-at arrive-PAST  
'Taro arrived at the airport at nine.'  
Kare-wa ni-zikan-mae-ni ie-o de-ta.  
he-TOP two-hour-before-at house-ACC leave-PAST  
[Lit.] 'He left home two hours earlier.'  
Totyuu-de tomodati-ni at-ta.  
on-the-way-at friend-DAT meet-PAST  
[Lit.] 'He met a friend of his on his way.'



Note that in (23), the past tense form of the verb *V-ta* is used where the past perfect is employed in the English discourse (21). (22) translates as in (24) in Japanese.

- (24) Taro-wa ku-zi-ni kuukoo-ni tui-ta.  
 Taro-TOP nine-o'clock-at airport-at arrive-PAST  
 'Taro arrived at the airport at nine.'  
 Hanako-wa moo kuukoo-ni tui-te i-ta.  
 Hanako-TOP already airport-at arrive-RS-PAST  
 [Lit.] 'There was already a result state of Hanako's arriving at the airport'  
 Taro-wa Hanako-ni hohoemikake-ta.  
 Taro-TOP Hanako-DAT smile-PAST  
 'Taro smiled at Hanako.'  
 [N.B.: RS stands for 'result state'.]

The *V-te iru* form in Japanese is usually referred to as a progressive construction. However, it can also have a different interpretation traditionally referred to as a result state (*kekka zanzon*, literally 'result remaining') reading (Kindaichi 1950, Fujii 1966, for an English source see Jacobsen 1982). I assume that the *V-te iru* form as used in (24) has a result state interpretation.

If the *V-ta* form and the *V-te ita* form (the past "progressive" form) in (23) or (24) are switched, the resulting discourses are infelicitous, as (25) and (26) show. In (25), the second sentence is acceptable, but it gives the reader the strong impression that the sentence is about some state (perhaps a result state) that obtains at the time Taro arrives at the airport. It means roughly "(when he arrived at the airport,) Taro had the experience of having left home two hours earlier" and does not induce a flashback effect. The third sentence is only marginally acceptable, and if it is acceptable at all, it can only receive a result state interpretation on a par with the second sentence. In (26), the second sentence is anomalous: *moo* 'already' cannot occur felicitously with the past tense marker *-ta* in this context. The fact that the past tense morpheme *-ta* and the "progressive form" *-te iru* in Japanese are not interchangeable supports the view that the perfect in English is ambiguous between whatever meanings these two Japanese forms represent. I call the interpretation of the past tense morpheme in

Japanese a preterit interpretation, and the reading represented by the *-te iru* form an aspectual interpretation.

- (25) Taro-wa ku-zi-ni kuukoo-ni tui-ta.  
 Taro-TOP nine-o'clock-at airport-at arrive-PAST  
 'Taro arrived at the airport at nine.'  
 # Taro-wa ni-zikan-mae-ni  
 Taro-TOP two-hour-before-at  
 ie-o de-te i-ta.  
 house-ACC leave-PROG-PAST  
 'He had the experience of having left home two hours earlier.'  
 # Totyuu-de tomodati-ni at-te i-ta.  
 on-the-way-at friend-DAT meet-PROG-PAST  
 'He had the experience of having met his friend on the way (to the airport).'
- (26) Taro-wa ku-zi-ni kuukoo-ni tui-ta.  
 Taro-TOP nine-o'clock-at airport-at arrive-PAST  
 'Taro arrived at the airport at nine.'  
 # Hanako-wa moo kuukoo-ni tui-ta.  
 Hanako-TOP already airport-at arrive-PAST  
 [Lit.] 'Hanako already arrived there.'  
 Taro-wa Hanako-ni hohoemikake-ta.  
 Taro-TOP Hanako-DAT smile-PAST  
 'Taro smiled at Hanako.'

Additional support for the ambiguity of the English perfect comes from English discourse examples. It is sometimes noted (e.g., Partee 1984:264) that a simple past can substitute for a past perfect without changing the meaning. However, in a narrative discourse, a past perfect used for an aspectual meaning cannot be supplanted by a past tense, as shown in (27a), whereas a past perfect used as a preterit can, as shown in (28a).

- (27) a. John went back home at eleven.  
 # His wife already went to bed.  
 b. John went back home at eleven.  
 His wife had already gone to bed.

- (28) a. John arrived at the airport at 10. He left his house two hours earlier. He met a friend of his on his way to the airport.  
 b. John arrived at the airport at 10. He had left his house two hours earlier. He had met a friend of his on his way to the airport.

This contrast between (27a) and (28a) also supports the distinction between an aspectual reading and a preterit reading of the perfect.

Let us turn to Japanese. It has been pointed out in the literature that the so-called "past tense" in Japanese is ambiguous between a past tense meaning and a present perfect meaning (e.g., Nakau 1976). Consider the following data:

- (29) a. Ano eega mi-ta?  
 That movie see-PAST  
 'Did [you] see the movie?' or  
 'Have [you] seen the movie?'  
 b. Mada mi-te-na-i.  
 yet see-PROG-NEG-PRES  
 '[I] have not seen [it] yet.'  
 c. Mi-ta-katta kedo, mi-na-katta.  
 see-want-PAST but see-NEG-PAST  
 '[I] wanted to see [it], but [I] didn't.'

As the two types of negative answer indicate, the question can be understood in two different ways. The answer (29b) is appropriate when the question is analogous to an English question in the perfect form. On the other hand, (29c) is an appropriate answer to a question that concerns a particular past interval, e.g., yesterday. Therefore, it is often claimed that the so-called past tense in Japanese is ambiguous between a preterit interpretation and a perfect-like interpretation.

It is clear that there are subtle semantic differences between the English past and the Japanese past.<sup>9</sup> However, the above facts do not necessarily show that the Japanese past is ambiguous. As we shall see in Chapter 2, English sentences in the simple past often involve reference to a specific past interval within which the episode in question is located. On the other hand, the English present perfect does not license an adverbial that indicates a definite past interval. This can

be taken to mean that the present perfect concerns the entire past interval.<sup>10</sup> Although this is hardly the whole story about the difference between the simple past and the perfect, it is arguable that this correctly describes one aspect of the semantic difference between them. If so, the presence or absence of a contextual restriction may be responsible for the two "interpretations" of the question in (29a). When a contextually salient interval narrowly restricts the meaning of a past tense, the resulting interpretation resembles the default interpretation of an English sentence in the past tense; when there is no such adverbial, the meaning is likened to that of a present perfect in English. Thus, I assume for the purpose of the following discussion that there is no essential difference between the English past and the Japanese past.

#### 1.4. THE OVERALL ORGANIZATION OF THE BOOK

I will work within the tradition of truth-conditional model-theoretic semantics but will try to be as theory-neutral as possible in my exposition. Moreover, whenever I present a formal proposal, I will also describe it informally so that the reader can grasp the intuitive idea behind it.

In Chapter 2, I will discuss the temporal semantics of simple sentences, i.e., sentences that have no embedded clauses. I will present my own proposal, which has the following characteristics: (i) tense morphemes serve to introduce predicates of times; (ii) for each tense morpheme, one reference time can be optionally introduced, and this can be done either implicitly (by a contextually available "reference time") or explicitly (by an overt temporal adverbial); (iii) the semantic contribution of tense morphemes is given in a compositional manner. In Chapter 3, I will summarize the previous studies that deal with tenses in embedded clauses. In Chapter 4, based on the discussion in Chapter 3, I will develop my own theory for the SOT phenomena in complement clauses. I will extend this analysis to adjunct clauses in Chapter 5. This includes an account of how the SOT phenomena interact with NP scope. Chapter 6 deals with a small but important set of problematic data: so-called double-access sentences in English. I will explicate their peculiar interpretations in terms of *de re* attitude

reports about states or intervals. The book concludes with a grammar for a fragment of English and Japanese that is capable of generating and interpreting the range of data discussed in the book.

Finally, a word of caution is in order concerning the syntactic category labels employed in this book. The syntactic proposal that I will advance includes a rather liberal interpretation of X-bar theory (Jackendoff 1977, etc.). For example, I will employ such maximal projections as CP (for Complementizer), TP (for Tense), MP (for Modal), and PerfP (for the Perfect), along with other standard phrasal categories. The term IP (for Inflection) is not used in my own proposal, and this is partly because the category Infl does not play any role in it. I will instead employ the traditional label S (for Sentence). The reader can regard S either as an alias for IP or as a special category that does not fall squarely within the X-bar scheme. Note also that some of the authors discussed in this book represent tense-related information in different ways. For instance, Ladusaw (1977) employs the category Aux, within which tense morphemes occur, and Enç (1987) considers Infl to be the locus of tense. The reader should be prepared for this relatively minor terminological divergence.

#### NOTES

<sup>1</sup> The terms “relative tense” and “absolute tense” are due to Comrie (1985).

<sup>2</sup> The past tense morpheme in Japanese is also suffixed to so-called adjectives (*keeyoosi*) and adjectival verbs (*keeyoo-doosi*), as in the following examples:

- (i) [*utukusii* is an adjective (*keeyoosi*).]  
       Sono e-wa utukusikat-ta.  
       that picture-TOP beautiful-PAST  
       ‘That picture was beautiful.’
- (ii) [*kenkooda* is an adjectival verb (*keeyoo-doosi*).]  
       Titi-wa kenkoodat-ta.  
       father-TOP healthy-PAST  
       ‘My father was healthy.’

<sup>3</sup> The terms “event” and “state” will be used in an informal and pre-theoretical manner until they are defined formally in Chapter 6.

<sup>4</sup> Binary tense systems are common among the world’s languages (Comrie 1985:49).

<sup>5</sup> My proposal is much more complicated than what this informal description indicates. For example, the SOT rule I will propose also applies to a present tense that is in the scope of a higher present tense. Please refer to Chapter 4 for details.

<sup>6</sup> The expression “relativized NP” (or “relative clause NP”) will be used in this book to refer to an NP that contains a relative clause.

<sup>7</sup> Scoping the NP to the complement clause level does not predict the intended interpretation, either.

<sup>8</sup> The diagrams represent my view of how these two narratives should be analyzed.

<sup>9</sup> See Soga (1983).

<sup>10</sup> This may explain why Montague (1973) regards the present perfect as the English construction that corresponds to the past tense operator in Intensional Logic (*IL*), which simply quantifies over past times. Bennett and Partee (1972) consider this possibility.