THE MIDDLE CONSTRUCTION

IN FRENCH AND ENGLISH:

A COMPARATIVE STUDY OF ITS

SYNTAX AND SEMANTICS

CHRISTIANE FELLBAUM

ANNE ZRIBI-HERTZ

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The Middle Construction in French and English:

A Comparative Study of its Syntax and Semantics

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CHAPTER ONE

INTRODUCTION*

Traditional Indo-European grammars reserve the term 'middle' for a
voice that can be called neither active nor passive but that lies somewhere
in between the two. A middle verb may be marked by passive morphology
while receiving an active interpretation (cf. the so-called deponent verbs
in Latin such as *imitari* 'to imitate'), or it may carry active morphology
while receiving a passive reading. This is exemplified by the English sen-
tences in (1) and their French counterparts in (2):

(1) a. Greek translates easily

    b. This shirt washes {easily/well}

(2) a. Le grec se traduit facilement

    b. Cette chemise se lave {facilement/bien}

A sentence like English (3) and its French counterpart (4) also seem to
conform to the informal definition of the middle given above:

(3) This branch broke suddenly

(4) a. Cette branche a cassé tout à coup

    b. Cette branche s'est cassée tout à coup

Like (1) and (2), the sentences in (3) and (4a) have a verb with active
morphology, but, like passives, they have as their formal subjects the
thematic object of their transitive verb. In (4b), this property is
explicitly marked by the reflexive form of the verb (the so-called
'reflexive voice').

    Current linguistic terminology tends to restrict the term 'middle' to
that productive class of constructions illustrated by (1) and (2). Up to
now, the middle construction has been studied separately for French and
English.[1] We will show in what follows how a comparative perspective grants
deeper insights into each of the two languages by raising new questions
and permitting wider generalizations.

    Chapter Two is devoted to the descriptive analysis of the French and
English middles; Section 2.1 outlines their common, 2.2 their individual,
properties. To explain the data, we turn first towards the properties
shared by the French and the English middles, and we suggest in Chapter
Three that they can be accounted for (synchronically) on the basis of for-
mally similar derivations. Turning next to the differences between the

French and the English middles, we propose that these arise essentially from the following contrast: the French middle is related both historically and cognitively to the passive, while the English middle is similarly related to the ergative construction.

CHAPTER TWO

THE MIDDLE CONSTRUCTION IN FRENCH AND ENGLISH:
A DESCRIPTIVE OVERVIEW

In order to best elucidate the properties of the middle, we shall contrast it with the homonymous ergative construction (following the practice established by, e.g., Ruwet 1972 for French and Keyser and Roeper 1984 for English).

2.1 Common Properties of the French and English Middle Constructions

2.1.1 As noted above, the middles (1) and (2) and the ergatives (3) and (4) could be regarded, in both languages, as 'mediopassives', in that their verbs have active (as opposed to passive) morphology, while their subjects correspond to the thematic object of the verb.[2] Thus, the middle and the ergative constructions in both languages conform to the formal description given in (5) below:

(5) $NP_{\theta O}$ V X

where $NP_{\theta O}$ is the thematic object

While the initial position of the Theme is the only property of the English middle and ergative that distinguishes them from (unmarked) transitive sentences, the French middle is morphologically marked by the reflexive clitic; thus the sentences in (6), with their surface form analogous to the English middles in (1), are ungrammatical:

(6) a. *Le grec traduit facilement

   b. Cette chemise lave facilement

French has two ergatives: the nonreflexive one illustrated in (4a), which formally resembles its English counterpart, and the reflexive one like (4b), whose surface structure corresponds to that of the middle. It can be shown, however, that only the reflexive ergative is productive and regular in modern French (see Zribi-Hertz 1987).

In sum, we established the existence, in both French and English, of two productive, homonymous sentence types conforming to (5), illustrated by (7) and (8) below:

(7) a. Greek translates easily   (middle)

   b. This branch broke suddenly   (ergative)

(8) a. Le grec se traduit facilement   (middle)

   b. Cette branche s'est cassée brusquement (ergative)

In her study of French ergatives, Zribi-Hertz 1987 showed that they generally share the relevant properties of the unaccusatives (in particular, non-agentive surface subject, incompatibility with passive morphology and internal objects). We assume this analysis to hold for both French and English.

Because they conform to (5), the middle and the ergative appear to be related to the personal (as opposed to the impersonal) passive; Keyser and Roeper 1984 proposed to formally account for this similarity by deriving the (English) middle and ergative constructions via the movement of the thematic object into subject position;[3] this rules out, following the Theta-criterion, the possibility for middle and ergative verbs (like passives) to govern an internal object:

(9) a. *Greek translates (easily) a fine translation

   b. *This branch (suddenly) broke a loud break

   c. *This branch was broken a loud break

2.1.2 Differences Between the Middle and the Ergative

Certain syntactic and semantic differences between the middle and the ergative constructions are common to both French and English:

[M1] The implicit agent: The interpretation of a middle always
     involves the θ-role AGENT

This is not the case with ergatives. Thus, (7a) and (8a) refer to a property of Greek that necessarily presupposes the intervention of an Agent, i.e. a human actor endowed with consciousness and volition. (7b) and (8b), on the other hand, refer to the branch with respect to an event that took place spontaneously, i.e. without involving any human volition. In general, ergatives describe a change of state of the thematic object (the surface subject); this is not the case in middles.

Correspondingly, the middle is compatible only with transitive verbs that can assign the AGENT role to their external argument (e.g. *translate/ traduire*). Ergatives (at least those like (7b) and (8b)[4]) are not subject to this constraint; thus, verbs like *mold* (French *moisir*) can occur in ergative constructions (cf. (10)), even though they do not assign *the* AGENT role:

(10) a.   This cheese molded quickly

b.   Ce fromage s'est moisi rapidement

(11) a.   *John molded this cheese

b.   *Jean a moisi ce fromage

On the other hand, only verbs that can assign the CAUSE role to their external argument can form an ergative:

(12) a.   The humidity of the air molded the cheese

b.   L'humidité de l'air a moisi ce fromage

Transitive sentences with a CAUSE subject can be paraphrased with explicit causatives:

(13) a.   The humidity of the air {made this cheese mold/caused this cheese to mold}

b.   L'humidité de l'air a fait (se) moisir ce fromage

In an ergative, the CAUSE argument can be lexically represented by a PP:

(14) a.   This cheese molded quickly in the humidity of the air

b.   Ce fromage s'est moisi rapidement {avec/à cause de/ sous l'effet de} l'humidité

On the other hand, the AGENT argument cannot be lexically represented in a middle; in other words a middle is incompatible with an agent phrase;[5] cf.:

(15) a.   *Greek translates easily by numerous specialists

b.   *Le grec se traduit facilement par de nombreux spécialistes

In contrast to the facts illustrated by (10) and (11), some transitive verbs like English *swallow*, French *avaler*, can occur in the middle (and thus, assign an AGENT role) but at the same time are unable to assign a CAUSE role, and thus, they cannot form an ergative (for reasons to be discussed in Chapter Five, this subclass of verbs is smaller in English than in French), e.g.:

(16) a. Pierre a   avalé   toutes les pilules
         Peter   has swallowed all   the pills

b. Ce   type de pilule s'   avale   facilement   (middle)
       this type of pill   REFL swallows easily

c. *Its round shape swallowed this pill easily   (CAUSE-V-NP)

   *Sa forme ronde a avalé facilement cette pilule

There exist also transitive verbs, like English *hate*, French *détester*, whose
external argument can receive neither the AGENT nor the CAUSE role; if the
above generalization is correct, these verbs should be excluded both from
the middle and the ergative construction:

(17) a. John hates spinach with mayonnaise

b. Jean déteste les épinards à la mayonnaise   ([-AGENT], [-CAUSE])

c. *The availability of creamed spinach hates spinach with mayonnaise

d. *La possibilité d'obtenir des épinards à la crème déteste
      les épinards à la mayonnaise   ([+CAUSE])

e. *Spinach hates easily

f. *Les épinards, ça se déteste {facilement/à la mayonnaise}
      (middle)

g. *Spinach with mayonnaise suddenly hated with the availability
      of creamed spinach

h. *Les épinards à la mayonnaise se sont brusquement détestés
      {sous l'effet/à cause} de la possibilité d'obtenir des
      épinards à la crème   (ergative)

[M2] The Constraint on Imperative Formation

Keyser and Roeper 1984 note that the English middle, in contrast to
the ergative, is incompatible with the imperative; the same appears to
hold for French:

(18) a. ?*Translate easily, Greek! (=(19a))

b.   Close, door!

(19) a. ?*Grec, traduis-toi facilement!

b.   Sésame, ouvre-toi!
      Sesame open REFL

Keyser and Roeper attribute this difference between middle and ergative to the 'stativity' of the middle, i.e., the ungrammaticality of (18a) would be equivalent to that of (20), which, too, has a 'stative' verb:

(20) *Know this poem, John!

However, this explanation does not satisfactorily account for the contrast between middle and ergative imperatives as illustrated by (18). First, given the parallel between (18) and (19), Keyser and Roeper's account should be applicable to French as well; however, this is not the case, since the French middle, unlike its English counterpart, is not restricted to a stative interpretation (a point to which we shall return later). Thus, (21b) is as unacceptable as (19a), while the middle in (21a) receives, in French, an 'eventive' interpretation:

(21) a. Ce   projet de loi se   discutera   mercredi à
        this bill   REFL will discuss Wednesday at

        l'Assemblé nationale
        the National Assembly

        'This bill will be discussed Wednesday at the National
        Assembly'

     b. ?*Projet de loi, discute-toi mercredi

Second, assuming that the notion of stativity has some semantic content, it does not seem that stative verbs are a priori excluded from imperatives:

(22) a. Be white, flower! (says the magician)

     b. Sois blanche, fleur! (dit le magicien)

Thus, the middle's incompatibility with imperatives remains to be explained.

[M3] The Need for a Modifier

It has been noted in the literature on the middle (both in French, e.g. Obenauer 1970, and in English, e.g. Keyser and Roeper 1984 and Hale and Keyser 1986), that a middle sentence requires the presence of an adverbial:

(23) a. ?Le riz se   cultive
         the rice REFL cultivates

     b. Le riz se   cultive   en Chine (from Obenauer 1970)
        the rice REFL cultivates in China
        'Rice cultivates in China'

(24) a. ?Greek translates

   b. Greek translates easily (from Keyser and Roeper 1984)

However, in both languages, the constraint in question turns out to be much less straightforward. It is GENERALLY true that a middle with a 'neutral' affirmative intonation contour tends to appear incomplete, rather than ungrammatical, in the absence of a modifier; this modifier may be an adverbial, but also a negation or a contrastive environment:

(25) a. ?This shirt washes

   b. This shirt washes easily

   c. This shirt doesn't wash

(26) a. ?Cette voiture se   conduit
        this   car   REFL drives

   b. Cette voiture se   conduit facilement
      this   car   REFL drives   easily

   c. Cette voiture ne   se   conduit pas (elle se   pilote!)
      this   car   NEG REFL drive   NEG it   REFL pilots
      'This car doesn't drive (, it pilots!)'

Both in English and in French, sentences like (25a) and (26a) can be perfectly acceptable in an appropriate discourse environment. Consider, for example, the following sentences:

(27) a. ?*This wall paints

   b. I would never construct a wall that didn't paint

   c. This wall is made of smooth polystyrene; it
       {does not/will not} paint

Once we allow the existence of *walls that do not paint*, even a sentence like (28) becomes acceptable:

(28) Does this wall paint?

The sentences in (29), then, are equally natural replies to (28):

(29) a. Yes, this wall paints

   b. Yes, it does (paint)

The sentences in (29) contain an 'abstract contrastive accent', in the sense that they presuppose a classification of walls into two categories: those that paint and those that do not. In other words, (29) implies ...*but others do not*. As (26) shows, the same restriction seems to apply to French, if one disregards the impersonal construction.[6]

However, there exists in French a subclass of middles which do not seem to require any modification at all; these cases are illustrated in (30):

(30) a. Cette racine se   mange
         this root   REFL eats   (='...is edible')

     b. Cette chaise se   plie
         this chair REFL folds (='...is foldable/folding')

     c. Replay, le   premier stylo dont l'encre se   gomme
         Replay the first   pen   whose ink   REFL erases
         (='...is erasable')

Looking at these sentences more closely, one notes, however, that their interpretation is equivalent to that of English middles like (29); i.e., the acceptability of the affirmations hinges on the implied corresponding negations and presupposes a binary classification of the objects referred to (ink which erases/ink which doesn't erase, etc.). We shall assume, therefore, that the requirement for some modification is a general property of middles both in English and in French (impersonal constructions excepted).

In French, as well as in English, this constraint distinguishes the middle from the ergative. Thus (31) and their French analogues in (32) are perceived as complete sentences without any modifier:

(31) a. This branch broke

     b. The cheese molded

(32) a. Cette branche s'est cassée

     b. Le fromage s'est moisi

2.2 Differences Between the French and the English Middle

    [D1] Reflexive Morphology

    The most obvious difference between the middles in the two languages is that the French middle, like the ergative, shows reflexive morphology, unlike the corresponding English constructions.

[D2] Lexical-Semantic Constraints

Another striking difference is that the English middle has a much narrower distribution than its French counterpart. This distinction is threefold:

[D2-A]

The range of modifiers compatible with the middle is far more restricted in English than in French; in English, only very few adverbs (such as *easily*) are admitted in middles (we shall return to this point later). Compare the following French/English middle pairs:

(33) a. Le grec se traduit facilement

     b. Le grec se traduit avec un dictionnaire

     c. Le grec se traduit mieux le matin

     d. Aristophane se traduit rarement dans le lycées

(34) a. Greek translates easily

     b. *Greek translates with a dictionary

     c. *Greek translates better in the morning

     d. *Aristophanes rarely translates in high schools

[D2-B]

While in French the vast majority of [V-Object] pairs freely form middles, middle formation in English is limited to a subclass of transitive verbs; thus, the French middles in (35) below do not have valid English counterparts (despite the presence of *facilement/easily*).

(35) a. Ce genre de pont se construit facilement

     b. Ce genre de poème s'écrit facilement

     c. L'abandon de cette hypothèse se justifie facilement

     d. La Tour Eiffel se voit facilement de ma fenêtre

     e. Ce genre de crime ne se pardonne pas facilement

     f. La saleté des rues de New York se remarque facilement

     g. Cet obstacle s'évite facilement

(36) a. *This type of bridge builds easily

b. *This kind of poem writes easily

c. *Giving up this hypothesis justifies easily

d. *The Eiffel Tower sees easily from my window

e. *This kind of crime does not forgive easily

f. *The dirtiness of the New York streets notices easily

g. *This obstacle avoids easily

[D2-C]

A French middle may have as its surface subject either a noun referring to a concrete entity (e.g. (35a)) or an 'abstract' nominalized phrase or a (sentential) complement:

(37) a. Ce   poème se   comprend   facilement
         this poem   REFL understands easily

b. Le départ   de Marie se   comprend   facilement
   the departure of Marie REFL understands easily

c. (Le fait) que Marie soit malade se   comprend   facilement
   the fact that Marie is   ill   REFL understands easily

In English, the subject NP of a middle generally refers to a concrete entity and cannot be a nominalized phrase or complement:

(38) a. John handles this car easily

b. John handled Mary's departure easily

(39) a. This car handles easily

b. *The fact that one's wife may leave does not handle easily

c. *A spouse's departure does not handle easily

[D3] *There*-insertion

A third difference between the two languages is that the middle in French, but not in English, is compatible with the impersonal construction, roughly equivalent to the English *there*-construction:

(40) Il se traduit facilement beaucoup de textes grecs dans
cette université

(41) *There translate easily many Greek texts at this university

[D4] Causatives

As was noted by Obenauer 1970, Ruwet 1972, and Kayne 1975, the French
middle generally cannot appear in a causative construction:

(42) *La réforme de l'enseignement a   fait   se   traduire
     the reform of the teaching   has made/caused REFL translate

     beaucoup de textes grecs dans cette université
     many   of texts Greek in   this university

     ('The teaching reform caused many Greek texts to translate
     at this university')

This constraint does not seem to apply to English middles:

(43) a. Its large print makes this paper read more easily

     b. Her wide smile makes Mary photograph well

The ungrammaticality of (42) cannot be attributed to the reflexive morpho-
logy of the French middles: cases like (13b), repeated below, show that
a reflexive is not a priori incompatible with a causative structure:

(13b) L'humidité a fait (se) moisir ce fromage

CHAPTER THREE

TOWARDS AN EXPLANATION OF [M1], [M2], AND [M3]

Concerning the reflexive middles in Romance languages other than French, the constraint [M1], the implicit agent, has been attributed to a semantic feature [AGENT], supposedly inherent to the middle reflexive clitic (see, for example, Rosen 1981 for Italian). This ad hoc hypothesis seems refuted by the English middle, which, despite its lack of a 'middle morpheme' (the reflexive in Romance languages), implies an agent. To account for this analogy between English and Romance, Keyser and Roeper 1984 postulate an 'abstract middle morpheme' for English, which, like the 'impersonal' *se*/*si* of the Romance languages, carries the AGENT role, but is phonetically empty. We will show below that the assumption of an intrinsically agentive 'middle morpheme' can be justified neither for French nor for English, and we will propose for both languages an alternative account of the implicit agent, whose validity can be argued for on grounds independent of the middle construction. Finally, we argue that the constraints [M2] (the incompatibility of middle and imperative) and [M3] (the need for a modifier) both follow from the assumption expressed in [M1].

3.1 The Empty Base Subject and the AGENT Role

We show that the implicit agent, which is generally assumed to be characteristic of the middle in both French and English (see the references given above) is in fact not special to this construction. It is also a feature of a subclass of passive constructions, which turn out to be truncated transformational passives.

It has already been noted in Zribi-Hertz (1982, 1986) that the implied agent requirement can also be observed in the French impersonal passive. Consider, for example, the verb *burn/brûler*. Used transitively, it may θ-mark its subject either with the AGENT role (ex. (44a)) or with the CAUSE role (ex. (44b)):

(44) a. Les vandales ont brûlé la forêt
       the vandals have burned the forest

     b. {Le feu /l'éruption du volcan } a brûlé la forêt
        the fire the eruption of the volcano has burned the forest

In the corresponding passives in (45), the agent NP in the *by/par*-phrase can receive the same θ-roles as the base subject; this is the idea which underlies the passive transformation of early TG, and, more recently, the hypothesis that the passive morphology 'absorbs' the θ-role of the subject and transmits it to the NP inside the PP (Jaeggli 1986):

(45) a. La forêt a été brûlée par les vandales
the forest has been burned by the vandals

b. La forêt a été brûlée par {le feu/l'éruption du volcan}

Let us now consider the truncated passives in (46):

(46) a. Plusieurs forêts ont été brûlées pendant l'incendie

b. Il a été brûlé plusieurs forêts pendant l'incendie

We note the following contrast: (46a) permits a twofold reconstruction of the underlying subject: The forests' burning may be attributed either to the volitional act of a human agent or to a spontaneous fire that occurred without human intervention. (46b), on the other hand, requires the reconstruction of an Agent subject. The same contrast can be observed in the corresponding English sentences:

(47) a. Several forests were burned during the fire

b. There were several forests burned during the fire

On the other hand, a truncated passive like (48) also tends to require the reconstruction of an Agent, though the progressive morpheme *be...ing* does not prevent the verb *burn* from assigning the CAUSE role to its subject (cf. (49b)):

(48) Several forests were being burned that morning

(49) a. Arsonists were burning several forests that morning

b. (While I was writing this paper), the volcano was burning several forests

Returning to French, consider (50):

(50) Plusieurs forêts sont brûlées
several forests are burned

It is well known that such truncated passives are ambiguous. Under one reading ('stative' or 'perfective'), the sentence describes the final state resulting from an accomplished action. Under the second reading ('dynamic' or 'imperfective'), the sentence refers to an ongoing process. Observe now that the imperfective, but not the perfective, reading tends to require the reconstruction of the AGENT role. (This observation has been made earlier by Chomsky 1981 and Jaeggli 1986.) We propose the following hypothesis:

[H1] The distinction outlined above between perfective (stative) and imperfective (dynamic) passive coincides with the distinction between lexical and transformational passive made in the transformational-generative literature.

The distinction between two passives (lexical and transformational) is justified by the categorial status of the past participle; that of the perfective passive shows various properties of the category Adjective, while the past participle of the imperfective passive preserves the properties held to be characteristic of verbs. Below we list the properties given for English past participles by Siegel 1973, Wasow 1977, Lightfoot 1979, and Lieber 1979:

A. Properties of the adjectival past participle in English:

    1. It can appear epithetically to the left of the noun
       (*A burned forest*)

    2. It can be the complement of verbs like *act, become, seem, look, remain,* etc. (*The house seemed freshly painted*)

    3. It tends to have a stative interpretation

    4. It often allows to its left the intensifier *very*

    5. It often can be prefixed with *un-* (*unpainted house, unforgotten event, unfinished symphony*)

B. Properties of the verbal past participle in English:

    1. It does not have adjectival properties, e.g., it tends to have a non-stative, dynamic interpretation; it is not compatible with *very* or *un-*; it cannot be the complement of verbs like *act, seem, become,* etc.

    2. It can occur in certain contexts from which adjectives are usually barred, e.g., the (verbal) past participle *considered* can be followed by an NP: *John is considered a fool* (cf. **John is obvious a fool*)

All these properties apply to French participles as well, *modulo* some minor changes: the position to the left of the NP is reserved, in French, to a very small number of adjectives, not including past participles (**une brûlée forêt*); the prefix *in-* has a more limited extension in French than does *un-* in English (**maison impeinte, *événement inoublié,* but: *symphonie inachevée*). Like their English counterparts, adjectival participles in French can be complements of predicative verbs such as *sembler* 'seem', *devenir* 'become', *rester* 'remain', *demeurer* 'stay, remain', etc. They also show to their left intensifying adjectives like *très* 'very' (e.g. *très brûlé*) or *complètement* 'completely' (e.g. *complètement brûlé*). The verbal past participles in French do not, unlike their adjectival counterparts, have a stative reading, and they can occur in positions typically blocked for adjectives, such as the impersonal passive:

(51) a. Il   a été brûlé plusieurs forêts l'été   dernier
     {there/it} were   burned several   forests the summer last
     'There were burned several forests last summer.'

b. *Il   a été vert plusieurs forêts l'été   dernier
     {there/it} were   green several   forests the summer last

It is interesting to note that in German, the transformational and the lexical passive are morphologically distinguishable through their auxiliaries: *sein* 'be', which is the copula in predicative constructions, is the auxiliary for the adjectival (lexical) passive; *werden*, a 'dynamic' predicative verb literally meaning 'become', is the auxiliary for the transformational passive. Thus, both sentences in (52) are perfectly grammatical; the first exhibits all the properties listed above for the lexical passive, while the second has the dynamic reading characteristic of the imperfective passive:

(52) a. Im Krieg waren mehrere Wälder verbrannt (auxiliary *sein*)

b. Im Krieg wurden mehrere Wälder verbrannt (auxiliary *werden*)

Both: 'During the war several forests were burned/burnt.'

Interestingly, the truncated passive with *werden*, but not with *sein*, tends to impose the reconstruction of an agent.[7]

The distinction made in the literature between lexical and transformational passive finds its theoretical justification in the framework of Chomsky's Extended Standard Theory, which assumes that a syntactic transformation cannot change the category label of a constituent. If the past participle of certain passives is an adjective, it cannot have been transformationally derived from a verb; the adjectival passive is thus analyzed as a lexical passive. On the other hand, the verbal passive is considered to be transformational on the basis of standard regularity-simplicity arguments of the sort which typically justify the existence of transformations.[8]

Our hypothesis [H1] states that the semantic distinction established above between perfective and imperfective passive coincides with the formal distinction between lexical and transformational passive. We now add [H2] to [H1]:

[H2] In the absence of an agent phrase, the interpretation of the transformational passive involves (in the unmarked case) the construal of the AGENT role.

In short, [H2] completes the list of properties given above for the two types of passives. We saw earlier (in (45b)) that in the presence of an agent phrase, a verbal past participle does not necessarily assign the AGENT role. The constraint [H2] explicitly concerns only the truncated transformational passive.

It now follows from [H1] and [H2] that the implied Agent is common to both the middle and the truncated transformational passive. But we still need to understand the reasons for this constraint. It is clear that the hypothesis of a 'middle morpheme' *SI*, phonetically represented or not (depending on the language), and presumed to absorb the AGENT role, does not account for the similarities between the middle and the transformational passive.

We will assume here the analysis of the transformational passive proposed by Zribi-Hertz (1982, 1986), where the passive morphology of the verb is transformationally inserted into the INFL node of a θ-subject verb, when that verb lacks a lexical argument capable of receiving the subject θ-role. We define a 'verb with a thematic subject' ($V_{\theta s}$) as a verb which assigns a θ-role to its external argument. Thus, *manger/eat*, *courir/run* (but not *sembler/seem* or *pleuvoir/rain*) are $V_{\theta s}$. We propose that [H2] can be justified through the thematic recoverability principle [H3]:

[H3] In the absence of an agent phrase, the subject of a $V_{\theta s}$ is normally construed as an Agent if it is not lexically filled in the base.

[H3] would apply to, for example, (53) below, to yield the transformational passives (50) and (51a):

(53) $[_{NP}$ e] $[_{INFL}$ *AGR-tense*] $[_{VP}$ brûler plusieurs forêts]

The verb *brûler/burn* can, as we have seen, assign to its base subject either the CAUSE or the AGENT role. [H3] stipulates that in a structure like (53), one will normally construe the missing arguments as an Agent. [H3] is thus to be understood as a functional thematic recoverability principle. [H3] does not apply, however, to lexical passives, which are assumed to have a lexical subject already in the base.

According to the above analysis, the constraint requiring that the AGENT role in 'certain passive structures' be construed follows from the assumption that these passives are transformationally derived from a base structure with an empty subject. Under this view, the fact that the same constraint is observed in the middle suggests the following hypothesis:

[H4] The middle construction is derived in both French and English from a D-Structure of the form of (54):

(54) $[_{NP}$ e] INFL $[_{VP}$ $V_{\theta s}$ X]

The fact that the ergative does not involve an AGENT role indicates on the other hand, according to [H3], that it does not have the D-Structure in (54).

We assume, following Keyser and Roeper 1984, Hale and Keyser 1986, and Zribi-Hertz 1987, that the verbs in ergative constructions are unaccusatives, i.e. intransitive verbs with an internal argument but lacking an external argument. In other words, ergative verbs are not θ-subject verbs ($V_{\theta s}$), but $V_{\overline{\theta s}}$. The D-Structure of ergatives is as in (55) below.

(55) $[_{NP} \; e]$ INFL $[_{VP} \; V_{\overline{\theta s}} \; X]$

The crucial difference between middles and ergatives, then, lies in the thematic properties of their verbs; the verb of a middle is not unaccusative, but transitive, i.e. a verb with two arguments, each of which should be assigned a θ-role; the verb in an ergative sentence can assign only a single θ-role, to its internal argument. The subject position in (55) may thus be filled in S-Structure only by an expletive or a moved element. The above can be expressed in the following generalization:

[H5] The θ-role AGENT may be assigned only to an external argument of the VP.

Assuming that θ-roles are assigned in D-Structure, the AGENT role may only be assigned, according to [H5], to a base subject or an Agent phrase, both being external arguments of the VP. But it cannot be assigned to the subject of a transformational passive (which is not a base subject) or to the argument of an unaccusative or ergative verb, because that argument is not an external one.

Ergative verbs (like *se casser/break*) are distinguished from non-ergative unaccusatives (like *arriver/arrive*) by the fact that they can a priori behave either like unaccusatives (*La branche s'est cassée/the branch broke*) or like transitive verbs ({*Pierre/l'ouragan*} *a cassé la branche* {*Peter/the storm*} *broke the branch*). In the former case, they assign only one θ-role, viz. to their internal argument; in the latter case, they normally assign a second θ-role to their external argument.

According to the above hypotheses, then, middles, like transformational passives, are transitive in D-Structure, whereas ergatives are intransitive in D-Structure. The same conclusion is reached by Keyser and Roeper 1984, who assume that middle formation is a syntactic operation, whereas ergative formation takes place in the lexicon prior to lexical insertion. Our analysis is distinct from that of Hale and Keyser 1986 in that they treat both middles and ergatives as unaccusatives.

We shall now argue that constraints [M2] (the constraint on imperative formation) and [M3] (the need for a modifier), both derive from [M1], the Implied Agent constraint.

3.2 The Constraint on Imperative Formation

Concerning the imperative in general, one can make the following trivial observation: the felicity conditions for the imperative require that any command be addressed to an interlocutor capable of carrying it out, i.e., a potential 'agent'. Consider again (18) and (19), repeated below:

(18) a. ?*Translate easily, Greek!

    b. Close, door!

(19) a. ?*Grec, traduit-toi facilement!

    b. Sésame, ouvre-toi!
       Sesame open REFL

Both of these commands are somewhat unusual, in that they are addressed to inanimate entities; however, the ergative commands in (18b) and (19b) are intuitively more acceptable than the middle imperatives in (18a) and (19a). This contrast can be explained as follows: the surface subject of an ergative can be understood metaphorically as an Agent, in so far as these structures do not imply any other Agent; on the other hand, it is impossible to interpret the subject of a middle as an Agent, even metaphorically, because a middle already has an implied (but distinct) Agent. If [H3] is correct, the truncated transformational passive, which also contains an AGENT argument, should be as incompatible with the imperative as the middle. (56) shows that this is indeed the case:

(56) a. ?*Soyez examinée, Madame!
      be   examined Madam

    b. ?*Be called, Madam!

3.3 The Need for a Modifier

Like [M1] and [M2], constraint [M3] turns out to apply not only to the middle, but also to the truncated transformational passive. Compare:

(57) a. ?John is called

    b. John is called downstairs

(58) a. ?Jean est appelé

    b. Jean est appelé au premier étage

The 'need for a modifier' generally characterizes the truncated transfor-
mational passive, in both French and English, except when the latter
occurs in a narrative discourse such as (59), where each of the successive
sentences refers to a chronologically ordered event, viz. is'+count' in
the sense of Fiengo 1974:

(59) a. C'est alors que la horde hurlante fait sont entrée dans la
        ville; les jardins sont saccagés, la forêt est brûlée, les
        maisons sont mises à sac; quand le bruit du galop s'eloigne,
        il ne reste plus qu'un tas de cendres et de gravats.

     b. Now the screaming horde enters the town: the *gardens are*
        ransacked, the forest is burned, the houses are pillaged;
        when the galloping sounds fade away, nothing remains but a
        heap of ashes and rubble.

In contrast to the transformational passive, the lexical passive
does not show this 'need for a modifier'; thus, (60), in the absence of
any modifier, tends to impose an adjectival reading of the participle:

(60) a. The forest is burned

     b. La forêt est brûlée

Note, incidentally, that while the need for a modifier seems to charac-
terize both the middle and the transformational passive in French as well
as in English, the lexical class of modifiers compatible with the truncated
transformational passive IN ENGLISH is not coextensive with the class of
modifiers compatible with the middle, which, as we mentioned earlier, is
limited to a few adverbials. We will show later (section 4.1) that this
contrast between middles and truncated passives is correlated to the
semantic restrictions on middle formation in English. We have shown,
then, that the need for a modifier, which in the literature has been
presented as a constraint specific to the middle, bears, in fact, on
D-Structure (54), which is common to both middle and truncated trans-
formational passive.

The acceptability judgments for sentences like (57) and (58) seem to
indicate that [M3] is pragmatic rather than structural in nature. Our
feeling is that the need for a modifier may be a 'need for a focus', which
arises due to the movement of the object of a $V_{\theta s}$ out of the VP. It is
well known that in an SVO language, like French or English, the focus of
a transitive sentence is placed normally (i.e. in the unmarked case) either
on the verbal complement or on the entire VP, but not on the verb alone
or on the subject. In an intransitive sentence, on the other hand, the
verb alone, as the rightmost element, may carry the focus. It seems that
this kind of focus assignment applies to all types of intransitives,
including unaccusatives and unergatives. Given these considerations, it
is therefore possible that the derivation of a middle or a transformational

passive, contrary to that of an intransitive sentence, affects the assign-
ment of the focus; the movement of the object of a $V_{\Theta s}$ to the left of the
verb creates a perceived 'gap' to its right. In other words, the *movement*
to the left of the object of a transitive verb (i.e. a verb with two
arguments) is perceived as more 'marked' than the movement of *the argument*
of an unaccusative verb. (For another argument concerning the need for
a modifier, see Fellbaum 1985).

CHAPTER FOUR

SEMANTIC RESTRICTIONS ON MIDDLE FORMATION IN ENGLISH

4.1 The English Middle and the 'Property Interpretation'

4.1.1 We noted earlier (section 2.2) that the range of modifiers compatible with the middle is far more restricted in English than in French. This difference, illustrated above by (33) and (34), is due to the following semantic contrast between the two languages:

> [H6] In English, but not in French, the middle construction is
> restricted to a PROPERTY interpretation

Borrowing the terminology from Fiengo 1974, we assume that a predicate can a priori receive either a PROPERTY or an EVENT interpretation; in the former case, the predicate refers to an inherent property of the theme, while in the latter case, it refers to a situation affecting the theme in an external, accidental, manner. This semantic distinction[9] can be applied to all kinds of syntactic structures, such as the intransitive sentence below:

> (61) This doll walks

> > = 1) ... is (in the middle of) walking   (EVENT)

> > = 2) ... is able to walk   (PROPERTY)

The notion of PROPERTY must be distinguished from the concept of 'stativity' which subsumes it. Thus a sentence like (62)

> (62) Mary is quite pale

can, in the absence of contextual clues, describe either a transitory stage of Mary, or a permanent, inherent feature. Under either interpretation, (62) can be called stative, in that it refers to a state, rather than an event occurring over time. As is well known, Spanish explicitly distinguishes the two interpretations of a sentence like (62) by means of the two different copula verbs *estar* and *ser*; while both verbs are stative, only *ser* conveys a PROPERTY reading.

Note incidentally that neither the stative nor the property interpretation is a priori incompatible with the imperative, contrary to some claims in the literature (e.g. Keyser and Roeper 1984). The sentences in (22) are stative, and can moreover receive a PROPERTY interpretation.

Returning now to the middle, we note that English middles must always receive a property interpretation. Thus (1a), repeated here as (63a), should be compared to its apparent French counterpart (63b):

(63) a. Greek translates easily

     b. Le grec se traduit facilement

(63b) can receive either the PROPERTY interpretation of (64a) or the EVENT interpretation of (64b):

(64) a. Le grec a la propriété d'être facile à traduire
        'Greek has the property of being easy to translate'

        (cf. *Le grec se traduit plus facilement en français que
            l'araméen* 'Greek can be translated into French more
            easily than Aramaic')

     b. Le grec se traduit avec facilité
        'Greek is translated with ease'

        (cf. *Les examinateurs constatent que le grec se traduit
            ce jour-là plus facilement que l'araméen* 'The examiners
            note that on that day Greek is translated more easily
            than Aramaic')

Note that the interpretation glossed in (64b) is that of the middle, i.e., it implies an Agent, and is thus distinct from the ergative reading, while (63b) additionally allows such an ergative reading, granted the possibility of a non-agentive machine translation.

Under the PROPERTY interpretation of (63b), the NP *le grec* denotes 'the Greek language'; under the EVENT interpretation, glossed in (64b), the same NP refers to a particular Greek text. In contrast to (63b), (63a) can only receive the interpretation of (64a) and not that of (64b). This contrast shows up in the range of modifiers compatible with the middle; thus, the adverbials in (33), whose English equivalents cannot occur in the English middle (cf. (34b, c, d)), are linked to an EVENT rather than to a PROPERTY reading of the verb (cf. Fellbaum 1985). This observation leads us to distinguish the above-defined PROPERTY interpretation from the notion of 'genericity': a French sentence like (33b) represents a general, atemporal statement, yet it does not receive a PROPERTY interpretation in that it does not involve any inherent properties of the Greek language; (33b) is in fact semantically equivalent to (65):

(65) On traduit   le grec avec un dictionnaire
     one translates Greek   with a   dictionary

(65a) can be understood in a descriptive sense ('one generally translates Greek with a dictionary') or in a prescriptive sense ('one must translate Greek with a dictionary'). (33a), on the other hand, states that the inherent properties of the Greek language are such that it is easy for an AGENT to translate it.

Three other differences between French and English middles follow from [H6].

4.1.2 The Property Interpretation and the Modifiers in Middles

The choice of modifier in an English middle sentence of the form [NP V X] is limited to a rather restricted class of adverbials, viz. 'facility' adverbs such as *easily, well, quickly, with(out) difficulty, beautifully, badly, fairly* (British), etc. (cf. Fellbaum 1985). In the absence of an overt lexical modifier, a middle is generally marked by the 'abstract contrastive accent' which was discussed in section 2.1.2.

In French, the modifiers that are compatible with middles include, but are not limited to, the class of adverbs noted above. (23b) and (33) show that adverbials of all kinds can occur in French middles.

This difference between the two languages is clearly related to [H6]; an English middle refers to an intrinsic property of the subject-theme from the point of view of a human agent. This brings us back to the 'classifying' effect of the property reading, discussed above in connection with (29): the interpretation of a middle like (1a), (7a), or (29) states (in the presence of an overt, lexical modifier) or presupposes (in the absence of a lexical modifier) the classification of a set of objects into two groups: *languages that translate* (*easily*) and *languages that don't translate* (*easily*); *shirts that wash* (*easily*) and *shirts that don't wash* (*easily*), etc. Thus, the modifiers in an English middle refer to intrinsic properties of the subject-theme which are relevant for ANY POTENTIAL AGENT, i.e. the properties referred to by the adverb are agent-independent. Compare:

(66) a. This car shifts manually

b. *This car shifts with the right hand

Note that some adverbs, in particular *easily* and *quickly*, have several readings. Thus, while their interpretation in middles is 'easy/quick for any agent to ...', their meaning in ergatives is approximately 'at the slightest cause or provocation'. In other words, the homonymous adverbs in ergatives have quite a different meaning, which, significantly, does not involve an Agent, but a Cause (see Fellbaum 1985 for details).

4.1.3 The Property Interpretation and *There*-Insertion

Keyser and Roeper 1984 note that *There*-Insertion is completely in-incompatible with the English middle.[10]

(67) a. *There wash many shirts easily

　　 b. *There translate many Greek texts

They attribute the unacceptability, of (67) to the fact that English middles contain an 'abstract middle morpheme' (*SI*) which intrinsically bears the AGENT role; this prevents the insertion of the expletive *there* (non-agentive by definition) into subject position. However, we saw above that the abstract *SI* cannot account satisfactorily for the AGENT role in middles, in that it does not predict that the implied Agent is common to both middles and the truncated transformational passive.

On the other hand, the notion that expletive *there* is intrinsically incompatible with an agentive interpretation seems invalidated by the fact that French (46) and English (47), repeated below, show the same semantic contrast:

(46) a. Plusieurs forêts ont été brûlées pendant l'incendie

　　 b. Il a été brûlé plusieurs forêts pendant l'incendie

(47) a. Several forests were burned during the fire

　　 b. There were several forests burned during the fire

In both languages, the impersonal passive tends to receive ONLY *the agentive* intepretation of the regular truncated passive.

A comparison between English and French middles also invalidates Keyser and Roeper's analysis of the ungrammaticality of (67). French middles are perfectly grammatical in an impersonal construction:

(68) a. Il　　　se　　lave beaucoup de chemises dans cette blanchisserie
　　 　it/there REFL wash many　　　　shirts　　in　 this　laundry

　　 b. Il　　　s'est　　traduit　　(facilement) beaucoup de textes
　　 　it/there REFL has translated easily　　　　many　　　　texts

　　 grecs à　cette époque
　　 Greek at that　time

Note, however, that not ALL French middles can occur in an impersonal construction. For example, the following sentences are unacceptable:

(69) a. *Il se lave facilement beaucoup de chemises dans cette
          blanchisserie

     b. *Il se traduit facilement plusieurs de ces textes grecs

   Note further that, if middles like (67) have a PROPERTY reading, the
impersonal constructions in (68) can receive only the EVENT interpretation
of the middle, even in the presence of *easily*. These facts lead to the
following descriptive generalization:

[H7] In both English and French, the impersonal construction is
     incompatible with a PROPERTY interpretation of the predicate.

(This constraint was noted and discussed in Guéron 1980 in connection with
different data.) It seems that in some languages, the impersonal construc-
tion is in fact compatible with STATIVE predicates,[11] but not with predicates
requiring a PROPERTY interpretation; thus, (70a) is a grammatical sentence
in English (like its German counterpart; cf. note 7, ex. (vi)), while (70b)
is ungrammatical:

(70) a. There were several people sick at the time

     b. *There were several shirts washable in the store

4.1.4 The PROPERTY Interpretation and Purpose Clauses

   The presence of an implied Agent in the English middle is disputed
by Jaeggli 1986 on the basis of data such as the following:

(71) a. This door was carefully closed (in order) to impress Mary

     b. ?This door closes easily (in order) to keep the house warm

(71a) consists of a truncated passive and a purpose clause with an empty
subject (PRO), which is standardly assumed to be controlled by an AGENT
argument in the higher clause. This leads Jaeggli to conclude that the
main clause in (71a) contains an implicit (AGENT) argument. The unac-
ceptability of (71b), on the other hand, indicates, according to Jaeggli,
that the middle does not contain a controller for the PRO subject of the
infinitive; thus, a middle involves no implicit argument. In this respect,
English differs from a Romance language like Spanish, where a sentence
like (72) is acceptable:

(72) Las manzanas se   comen para   adelgazar
     the apples   REFL eat   in order to lose weight
     'Apples are eaten in order to lose weight.'
     (Example from Jaeggli 1986)

This contrast is attributed by Jaeggli to the fact that Spanish, but not English, has a 'middle morpheme', viz. the reflexive clitic, which can absorb the θ-role of the subject. On the basis of this analysis (which differs from that of Keyser and Roeper), one would expect the French middle to behave like the Spanish, but unlike the English middle, because it too should be able to absorb the AGENT role into its reflexive clitic. Indeed, (73a), the French analogue to (72), is about as acceptable as the passive in (73b):

(73) a. Les pommes, ça se mange pour maigrir

b. Les pommes sont mangées pour maigrir

It is, however, not true that a French middle can generally control the subject of a lower infinitival clause. Thus, (74) is as unacceptable as its English counterpart (71b):

(74) ?*Cette porte se ferme facilement pour garder la maison chaude

The symmetry between (71b) and (74) suggests that the unacceptability of (71b) cannot, as proposed by Jaeggli, be due to the absence of a middle morpheme in English. Rather, we suggest that the unacceptability of both (71b) and (74) must be related to that of (75) below:

(75) a. ?*The earth is round in order to rotate around the sun

b. ?*La terre est ronde, afin de tourner autour du soleil

We contend that the impossibility of the purpose clause arises not from the predicative structure of the main clause, but from the fact that the main clause refers to an inherent property of the subject/theme. Compare now (75) and (76), which are also 'stative', but which do not have a PROPERTY interpretation:

(76) a. John is {present/active/cheerful} (in order) to impress Mary

b. Jean est {présent/actif/jovial} afin d'impressioner Marie

We believe that the contrast between (75) and (76) is due more to pragmatic than syntactic factors: the property referred to by the main clause in (75) seems to be 'controlled by the subject', while in (76), it is an objective property not under the control of the subject. Thus, a main clause with a PROPERTY reading does not seem compatible with a purpose clause, unless the sentence can be interpreted as involving some kind of 'external' control, exercised by a narrator, director, etc. For example:

(77) This peg is square (in order) to fit into his hole

(78) This window is bullet-proof (in order) to protect the president

This kind of pragmatic control is compatible with middles:

(79) This dog food cuts and chews like meat in order to make
your pet happy

We therefore conclude that the contrast between (71b) and (72, 73)
is not attributable to the presence or absence of a middle morpheme and
is thus not language-specific. Rather, the unacceptability of (71b), like
that of (74), follows from the PROPERTY reading these middles receive; (71a),
on the other hand, is acceptable because the truncated transformational
passive, unlike the English middle, is not restricted to such a PROPERTY
interpretation.

4.2 Middles and Affected Arguments

We have seen above (Section 2.2, exx. (35) and (36)), that the distri-
bution of the English middle is far more restricted than that of its
French counterpart. We will attempt to define the subclass of English
transitive verbs that can undergo middle formation. In light of the
contrast presented by (35) and (36), we propose the following generalization:

[H8] In English (but not in French), the argument of a middle verb
must be interpreted as AFFECTED by the action referred to
by the verb.

(80) An argument A (of a verb or predicate) is AFFECTED by the
action or process P referred to by the verb if the referent
of A exists prior to P and if its inherent properties are
modified by P.[12]

The semantic generalization expressed above seems to account for the
contrast between, e.g., (1) and (36); the argument of (1) is affected by the
process (the translation, the washing) in that its inherent properties
have changed (Greek has become another language, the shirts have become
clean); the arguments in (35) and (36), however, are not affected by the
action referred to by the verb, because either A did not exist prior to P
(as in (36a) and (36b)), or because P does not affect the inherent properties
of A (as in (36c,d,e,f,g)). Note that the relevant semantic distinctions
in (81) and (82) are subtle, but nevertheless conform to [H8]:

(81) a. This meat {chews/digests/swallows} easily

b. *This meat eats easily

(82) a. Mary photographs well

b. *Mary invites easily

The verbs in (81a) are acceptable in the middle insofar as they refer to a chemical/structural transformation of the subject-theme; while *eat* seems close enough in meaning, (81b) does not refer to the act of ingestion in the same sense from the point of view of the ingested food, but rather from that of the eater. Note that *eat* also can refer to a social event as in *Shall we eat out tonight with the Joneses?* or can refer more generally to nourishment rather than the actual ingestion of food (as in *Muslims don't eat pork* or *You ought to eat more, child!*). The process referred to by *photograph* in (82) affects the subject-theme by converting it into an image (somewhat analogous to the subject-theme of *translate*). The process denoted by *invite* is a purely external exchange between Mary and her social world that has no bearing on her inherent properties.

While [H8] and (80) hold for the majority of English verbs that can form middles, they do not seem to account sufficiently for all the facts in view of apparent counterexamples such as (83b) below:

(83) a. This book sells well

b. *This book buys well

The notion of an affected argument does not account in a satisfactory way for the semantic difference between the verbs *buy* and *sell*. Moreover, the verb *read*, whose argument is not covered by the definition of Affectedness given in (80), is quite compatible with the middle. In view of these facts, we propose that the semantic generalization formulated in [H8] is correlated in English to the distributional generalization stated in [H9]:

[H9] All those transitive verbs that can undergo middle formation in English are characterized by the fact that they have an adjectival past participle

Thus, we have:

(84) a. The translated books are on the bottom shelf (cf. (1a))

b. The washed shirts are hanging on the line (cf. (1b))

c. {Chewed/digested/swallowed} food is hard to analyze (cf. (81a))

d. Photographed people often have idiotic smiles (cf. (82a))

e. The sold books are on the bottom shelf (cf. (83a))

f. Return the read books to the front desk (cf. (84))

(85) a. *Built bridges increase the traffic flow (cf. (36a))

   b. *Justified hypotheses are usually interesting (cf. (36c))

   c. *Seen towers are to be avoided (cf. (36d))

   d. *Noticed dirt is embarrassing (cf. (36f))

   e. *Avoided obstacles are easily forgotten (cf. (36g))

   f. *Eaten meat looks terrible (cf. (81b))

   g. *The bought books are in the back (cf. (83b))

The semantic generalization formulated in [H8] thus seems to have its
syntactic grounding in [H9]. Adjectival past participle formation may be
correlated, on the other hand, to that same 'classifying' semantic effect
which has been shown earlier to characterize the English middle. Thus,
a sentence like (84a) presupposes a classification of books into two
subclasses: translated ones and untranslated ones. Note, however, that
[H9] is a necessary but not sufficient condition to define the class of
middle verbs; i.e., not all verbs that can form adjectival passives can
also form middles (e.g. *The invited guests/*guests invite easily on weekends*).
But, importantly, most verbs that conform to BOTH [H8] and [H9] can form
middles. In the next and last section, we propose a possible explanation
for the facts described above.

4.3 The English Middle and Preposition Stranding

As noted by, for example, Hoekstra 1984 and Guéron 1985, the English
middle is incompatible with Preposition Stranding. Compare the following
sentence pairs:

(86) a. This shirt washes easily

   b. *This sink washes in easily

(87) a. These notebooks read well

   b. *These notebooks read in well

(88) a. This wall will paint quickly

   b. *This wall will paint on quickly

The (a) sentences show that the bare verb is open to middle formation with
the direct argument of the verb as the surface subject of the middle. In
the (b) sentences, the direct argument is not present on the surface, and

middle formation is not possible with the NP from the PP as the surface subject. Assuming that verbs like *paint*, *wash*, and *read* have a direct internal argument as part of their lexical representation, the (b) sentences can be said to implicitly contain such a direct argument. Indeed, the (b) sentences can only be interpreted if one supplies an indefinite object *something* (or a 'generic' or cognate object such as *laundry* in (86a), *notes* in (87a), and *paint* in (88a)). We believe that it is only this (unexpressed) argument that is affected, and that the NP from the PP cannot be an affected argument. This would account for the ungrammaticality of the (b) sentences, in accordance with our Affectedness Constraint on middles. Note that unergative verbs, which do not have an internal argument in their lexical representation, cannot undergo middle formation with P-Stranding either:

(89) a. *This rug walks on well

b. *Such legends sing about easily

c. *Such a floor dances on easily

We assume that these sentences are ruled out for the same reason, viz. the absence of a direct argument that can be affected by the action. Note further that unergative verbs are marginally acceptable in middles if a cognate object serves as the surface subject:

(90) a. ?Such dances dance easily

b. ?Russian songs sing easily

An alternative, though similar, account for the incompatibility of Preposition Stranding with middles assumes the reanalysis of the verb and the following preposition as a complex transitive verb (see van Riemsdijk 1987). It appears that such a verb is semantically incompatible with the PROPERTY interpretation characteristic of the middle. Because the preposition remains the θ-role assigner, the complex verb cannot refer to an inherent property of the argument. This semantic constraint accounts also for the ungrammaticality of the adjectival passives below:

(91) a. *The washed-in sink

b. *The painted-on wall

c. *The walked-on rug

d. *The sung-about legend

e. *The danced-on floor

Note that the corresponding passives are fine: *The sink was washed in many times*, *The wall was painted on with purple paint*, etc. (Note that both middle and adjectival passive formation are fine if the preposition is a particle: *This umbrella folds up easily/The folded-up umbrella.*)

CHAPTER FIVE

MIDDLE, PASSIVE, ERGATIVE

We showed in Chapters Three and Four that French and English middle have in common their 'mediopassive' character, and we established their specific semantic and syntactic features distinguishing them from the ergative; it turned out that the various contrasts between the French and the English middle constructions can be reduced to the following three points:

(A) The French, but not the English middle, has a 'middle morpheme', represented lexically by the reflexive clitic;

(B) The middle in English, but not in French, is restricted to a PROPERTY interpretation;

(C) In English, but not in French, the subject-theme of a middle must be affected (in the sense of (80)).

We propose that these contrasts result from one crucial difference between the two languages:

[H10] While the English middle is historically and cognitively related to the ergative, the French middle is similarly related to the passive construction.

Stéfanini 1962 showed that the French middle construction resulted from a specialization--arising in Vulgar Latin--of the periphrastic passive in a perfective reading, and that this development created the need for a new imperfective passive.[13] The middle in French thus functions like an imperfective replica of the passive. As a result, virtually any transitive $V_{\Theta s}$ that assigns the Θ-role Agent argument can appear in the middle construction in modern French. Indeed, the French middle, like the passive, is not subject to any additional restrictions such as the PROPERTY reading or the Affectedness Constraint. On the other hand, assuming Zribi-Hertz's (1982, 1986) analysis of the reflexive middle, there exists a formal analogy between the passive verbal morphology (être-é) and the middle reflexive clitic (se), which allowed the latter to serve as a substitute for the former in various languages, including French; these markers are both correlated to an empty subject in the base, and they are both located in the INFL(ectional) component.

Reflexivity is quite a different phenomenon in English than in French, because first, English, unlike French, does not have reflexive clitic pronouns, and second, English no longer has any reflexive morpheme deriving from Indo-European *SE, but had to develop a series of reflexive pronouns

on the basis of personal and possessive pronouns (e.g. *himself, myself*).
Thus, there does not exist in English any formal relationship between the
reflexive and the passive which could account for a diachronic relationship
between the two constructions. This crucial difference between French
and English underlies the contrast previously labelled [D1]. The semantic
constraints elucidated in Chapter Four suggest, on the other hand, an
affinity between the middle and the ergative constructions in English. We
postulated that the semantic features of the middle (PROPERTY interpretation,
affected subject-theme) have a formal grounding in their correlation to the
existence of an adjectival past participle. This turns out to be true
also of the ergative (ex. (3)), whose French counterpart is a reflexive
ergative, as exemplified by (4a) (but not (4b); Zribi-Hertz 1987 showed
that the former, but not the latter, constitute a regular and productive
class with the semantics of 'change of state').

The hypothesis of a relationship between middle and ergative in English
finds support in the fact that most verbs that cannot undergo middle
formation also cannot form ergatives (these sentences should be contrasted
with (36)):

(92) a. *This hypothesis was justified yesterday

    b. *The flowers saw in the garden

    c. *This crime finally forgave

    d. *The dirt noticed immediately

    e. *This obstacle avoided in the last minute

    f. *The meat ate last night

    g. *Mary visited three times

    h. *The books bought cheaply

The hypothesis formulated in [H4] accounts for the distinction noted
in [D4] concerning the incompatibility of middles and causative structures:
in French, the middle, like the passive construction, cannot be embedded
under a causative verb:

(93) a. *Ses gros caractères font se   lire ce   journal plus facilement
      its big letters   make REFL read this paper   more easily

    b. *Ses gros caractères font être lu   ce journal
      its big letters   make to be.read this paper

      plus facilement
      more easily

The English middle, on the other hand, like the ergative, can be embedded in a causative structure:

(94) Its big print makes this paper read more easily

(95) Frequent hurricanes make our trees break

Correspondingly, the causative (96b), like the non-causative (96a), is ambiguous as to a middle or ergative interpretation:

(96) a. The car door opened easily

   b. The grease made the car door open easily

([H10] accords nicely with the history of the English middle as outlined by Curme 1931 and Jespersen 1927, who state that the middle developed initially in analogy to, and as an 'outgrowth' of, the ergative ('absolute').)
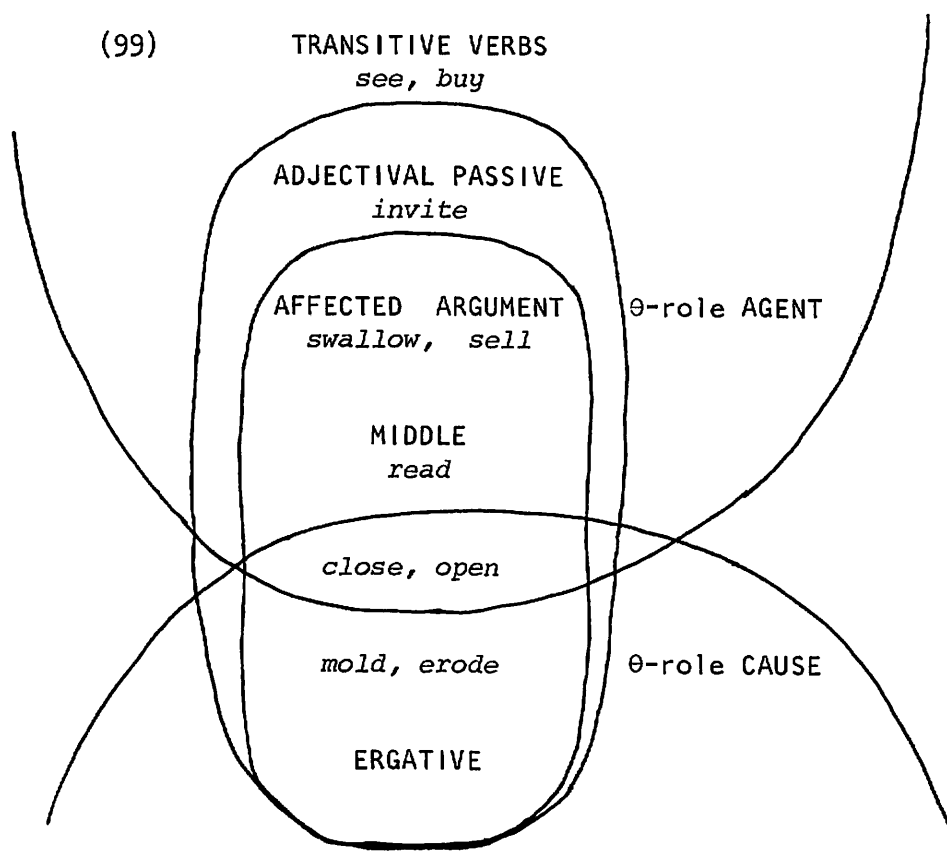
In trying to account for the results in Chapters One through Four, we assume, then, that the ergative appeared in English with a subclass of transitive verbs formally characterizable by the existence of a corresponding adjectival past participle and by their ability to assign the CAUSE role to their external argument. We propose further that the middle arose later within a subclass of verbs which form adjectival past participles, viz. those which assign the AGENT role (thus, including *wash* but excluding *mold*).

We propose further that this diachronic relation between middle and ergative continues to exist on the cognitive level, i.e. within the linguistic competence of today's native speakers of English. Speakers generate ergatives and middles basically from the same lexical class of transitive verbs, which are essentially characterized by their ability to form adjectival past participles and their affected argument. The relationship of English ergative and middle verbs can be represented by the diagram in (99).

The diagram shows that most middle verbs can also undergo ergative formation (that the reverse is not true is shown by such cases as *mold*). In fact, certain verbs seem far less felicitous as ergatives than as middles, in that they assign more naturally the AGENT-role than the CAUSE-role to their external argument. Thus, *photograph* occurs quite naturally in a middle, but the ergative interpretation in (98) is more difficult:

(97) {Mary/this type of scenery} photographs well

(98) ??This scenery photographed on a calm autumn night

(99) TRANSITIVE VERBS
see, buy

ADJECTIVAL PASSIVE
invite

AFFECTED ARGUMENT
swallow, sell

θ-role AGENT

MIDDLE
read

close, open

mold, erode   θ-role CAUSE

ERGATIVE

The problem with (98) is that it seems hard, or at least rather odd, to construct a sentence of the form of (100):

(100) CAUSE photographed this scenery on a calm autumn night

It is, however, not impossible (though admittedly unusual) to construct such a sentence by inserting into the subject position an NP referring to an automaton, a mechanism, a physical or chemical reaction chain, etc. One obtains, e.g.:

(101) My new multifocus lens photographed this scenery on a
      calm autumn night

Certain English verbs with both an adjectival passive and an affected internal argument that can undergo middle formation, however, seem not to be able to assign a CAUSE role; thus, *teach* and *swallow* are odd in an ergative construction:

(102) a. This meat swallows easily

      b. ??This meat swallowed in three seconds

(103) a. This type of rule teaches easily

b. ??This grammar rule taught in one week

These examples indicate that the affected internal argument and the ability to undergo adjectival passive formation are necessary but not sufficient conditions for middle formation. The existence of the (relatively small) subclass of verbs of which *swallow* and *teach* are members is in agreement with Jespersen's hypothesis, according to which the middle represents the 'outgrowth' of the ergative; cf. diagram (99) above.

CHAPTER SIX

CONCLUSION

Two main hypotheses are proposed in this paper:

(A) The properties common to the French and English middle construc-
tions follow from the assumption that the middle is derived,
synchronically, by means of a mechanism that is analogous to
that for the derivation of the transformational passive.

(B) The properties which separate the French and English middle
constructions, i.e. the semantic restrictions on the English
middle, follow from the assumption that the English middle
is diachronically and cognitively related to the ergative con-
struction, while the French middle is related to the passive.

These assumptions leave the following question still open: If the French
middle is related to the transformational passive (as we suggested), why
are the middle and ergative constructions homonymous in French?

The answer to this question lies in the definition of 'related', a
term which we have used rather loosely in [H10]. In saying that a construc-
tion C1 is related to a construction C2, we mean that C1 developed out
of C2; in other words, C1 would not have emerged without C2's prior existence.
From a cognitive point of view, C1 is related to C2 if C1 constitutes for
the native speaker of the given language a variant or an outgrowth of C2.
In this sense, the French middle is related to the transformational passive,
which it supplants in (some of) its imperfective uses; the English middle
is related to the ergative, of which it represents a specialized develop-
ment. While in French the ergative (e.g. *La branch s'est cassée*) and the
middle (e.g. *La question s'est discutée*) are formally homonymous, they are
not related in the sense defined above. The two constructions arose at
the same time and independently, and their formal similarity simply results
from the fact that the reflexive clitic appears perfectly suited to indicate
that the thematic object has been moved to the left; as a clitic, it is
placed into the INFL(ectional) component together with voice and aspect
markers; as an anaphor, it is a natural manifestation of the (anaphoric)
trace of the moved object. In short, the reflexive clitic is the lexical
manifestation par excellence of the mediopassive.

We hope to have shown that the relationship between the middle and
ergative in English, on the other hand, far exceeds a formal surface
similarity.

NOTES

[1]See in particular van Oosten 1977, Keyser and Roeper 1984, Fellbaum 1986, Hale and Keyser 1986 for English; for French see Gross (1968, 1975), Obenauer 1970, Ruwet 1972, Kayne 1975, Zribi-Hertz (1982, 1986).

[2]On the basis of this analysis, the middle is only compatible with transitive verbs. (i) below represents an apparent counterexample (from Gross 1975):

(i) a. Il se réfléchit beaucoup à ces choses-là
there/it REFL think much about these things-there
'These matters are much thought about.'

   b. Il s'est discuté de cette question hier
there/it REFL is discussed of this question yesterday
'This question was discussed yesterday.'

The verbs in (i) are classified in most traditional French grammars as 'indirect transitives', because they subcategorize for a PP that is not an adverbial (of place, time, etc.). This terminology seems to us to be appropriate indeed, for these verbs can also be true transitives; cf.: *Ce projet a été mûrement reflechi* (lit. 'This plan was carefully thought'); *Ce point a été discuté* 'This point was discussed'. Examples like (i) thus do not refute the essential idea that only transitive verbs occur in middles.

[3]More precisely, Keyser and Roeper assume that the middle formation involves NP movement in the syntax, whereas the Theme NP is moved in the lexicon, prior to lexical insertion, in the case of ergatives.

[4]We restrict ourselves to the study of ergatives of the type exemplified by (7b) and (8b), i.e. those that are reflexive in French, and which were shown by Zribi-Hertz 1987 to be a regular and productive class. It is not known whether English ergatives, too, fall into two groups.

[5]In French, this constraint applies only to the modern language (cf. the Classical French of La Fontaine: *Cependant par Baucis le festin se prépare* (lit. 'Meanwhile the feast prepares by Baucis). English seems never to have had agent phrases with middles. This fact will be accounted for by our hypothesis [H10].

[6]The impersonal middle constructions, too, show the need for a modifier, but the same is true for actives and passives in impersonal structures which require some form of complement:

(i) Il   se   lit beaucoup de romans ?(dans cette ville)
    it/there REFL read many   novels   in   this town

(ii) Il   a été mangé beaucoup de poulet ?(dans ce   restaurant)
     it/there was   eaten much   chicken   in   this restaurant

(iii) Il   est arrivé un homme ?(à   la   gare)
      it/there has arrived a man   at the station

[7]In German, the impersonal passive can be formed either with the auxiliary *sein* or with *werden*:

(i) a. Es sind mehrere Wälder verbrannt

    b. Es werden mehrere Wälder verbrannt

    Both: 'There/it are several forests burned.'

Unlike French, German can have an adjective in such a structure:

(ii) Es sind schon mehrere Wälder krank
     'It/there are already several forests ill.'

(ia) is thus as acceptable as (ii).

[8]This categorial separation between the two types of past participles does not seem to agree with Chomsky's idea (based on Rouveret and Vergnaud 1980) of labelling past participles with the single feature [+V]. Under the analysis presented here, verbal past participles would be [+V, -N], while adjectival past participles would be [+V, +N].

[9]The same distinction is made in Woisetschlaeger and Goldsmith 1982, who differentiate a 'structural' interpretation (~'PROPERTY') from a 'phenomenological' (~'EVENT') one.

[10]Keyser and Roeper assert moreover that *there*-insertion is somewhat less unacceptable with ergatives (*There sank a ship*), quite acceptable with an unaccusative verb (*There arrived a man*), and completely ungrammatical with unergatives (**There sang a man*). We will not discuss this point here, but it appears to us to be based on faulty data. Ergatives, like unergatives, can freely undergo *there*-insertion. This has recently been demonstrated by Hulk 1989.

[11]In French, the extraposed subject NP cannot occur between the copula and its complement; thus, the analogue of (70a) would be ungrammatical in French; on the other hand, sentences like (ia, b) are bad both in French and in English insofar as the adjective cannot assign case:

(i) a. *Il est malade plusieurs forêts

b. *There were sick several people

[12]The semantic notion of Affectedness has occasionally occurred in the literature in connection with the notion of Theme or Patient. M. Anderson 1977 refined it in connection with certain nominal constructions but Fellbaum 1987 shows that Affectedness is not a condition for nominalization; it was applied to middles by, e.g., Jaeggli 1986, Fellbaum 1986, and Hale and Keyser 1986. Our formulation (80) attempts to make this important semantic concept more precise.

[13]For example, Classical Latin *amatur* 'he is loved' is a synthetic passive; Vulgar Latin *amatus est* 'he is loved' is a periphrastic passive.

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