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Adjectival Ergativity in French

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0 Introduction

In this dissertation, our aim is to consider the extent to which analyses of verbal ergativity in French can be extended to embrace Adjectives in that language. Ergative Verbs (in the sense of Burzio (1981, 1986); unaccusative Verbs in the sense of Perlmutter (1978a)) assign internal θ -roles only, i.e., within VP. In French, they are intransitive Verbs (in as much as they are not transitive) whose superficial subject is in fact derived from a base-generated object (cf. the somewhat simplistic (1) below), in contrast to 'true' intransitive Verbs, as it were, whose superficial subject is base-generated outside VP (cf. (2) below).

(1) $[_{IPe} [_{VPV} NP]]$



(2) $[_{IPNP} [_{VPV}]]$

Verbs which can be characterised by the schematic diagram in (1), we shall term **ergative** or **unaccusative**. Verbs which can be characterised by the schematic diagram in (2), we shall term **unergative** or **true intransitive**.

This dissertation will address two questions. First, can the class of French intransitive Adjective be subdivided (in similar fashion to the class of intransitive Verb) to distinguish between those Adjectives whose 'subject' is an external argument, to use Williams' (1980) terminology, (unergative Adjectives), and those whose superficial 'subject' is an internal argument (ergative Adjectives)? We shall tentatively suggest that this is indeed the case, despite a depressing lack of empirical evidence.

Second, assuming our first conclusion to be wellfounded, is it the case that Adjectives in French which are morphologically related to ergative Verbs are themselves also ergative? We shall argue that this hypothesis is not empirically supported.

In the same way that our earlier work on verbal ergativity in French (Rowlett (1990)) was inspired by parallel work on Italian, especially by Burzio (1981, 1986), the present examination of a possible extension of the analysis of

ergativity in French from Verbs to other lexical categories also stems from work on Italian, in the case of Adjectives from that of Cinque (1990).

The ensuing discussion is organised in the following way: Section 1 presents the theoretical machinery on which the discussion will depend. Section 2 reviews the general background to non-verbal ergativity. The body of the dissertation, sections 3-11, comprises two major parts: sections 3-6 are concerned with the first question mentioned above, sections 7-11 the second. Sections 3 and 4 respectively present and offer a theoretical motivation for our first hypothesis, namely that ergative Adjectives exist in French. As a prelude to a consideration of *French*, section 5 summarises Cinque's (1990) extension of the analysis of ergativity from Verbs to Adjectives in *Italian*. In section 6, our attention is turned to French, and we consider three areas which could help us distinguish between ergative and unergative Adjectives in that language. In section 7, we consider the question of Adjectives which are morphologically related to ergative Verbs. Sections 8 and 9 respectively present and offer a theoretical motivation for our second hypothesis, namely that Adjectives which are morphologically related to ergative Verbs are themselves ergative. In section 10, we look at, and test, two processes in derivational morphology which might be expected to derive ergative Adjectives, i.e. *-able* affixation and adjectival passive formation. In section 11, we review three explanations which have been proposed in the literature to account for the fact that the Adjectives considered in section 10 are *not* ergative, contrary to expectations. Our conclusions are drawn together in section 12, where, in particular, we discuss the implications of our results for Chomsky's (1967) proposals.

1 Theoretical background

The modular GB framework is adopted in this dissertation (cf. Chomsky (1981) especially). Case theory, theta (θ) theory and chain theory will be of particular relevance to the discussion.

1.1 Case theory

Case theory (cf. Chomsky (1981:170-83)) must be clearly differentiated from traditional morphological case. Case (with a capital C) is a strictly abstract concept. Case theory states that every realised NP must bear Case. This requirement is made explicit by the Case filter, operative at S-structure (see section 1.4 below), which states that any utterance containing an NP which has a phonological matrix but no Case is ungrammatical. There are strict configurational conditions on Case assignment, namely, that a government relation should hold between the Case assigner and the Case-marked NP. Given this initial prerequisite, an NP is assigned *nominative* Case when governed by the AGR/TNS features of the I(nflection) node (i.e., PRO), *objective* (or *accusative*) Case when governed by V and *oblique* Case when governed by P or by one of a number of lexically-specified Verbs. The effect of the Case filter is to oblige every lexical NP to be in a Case-marked position at S-structure - by NP-movement, if necessary. This aspect of GB partly explains why some movement rules are obligatory. It is assumed, for example, that passive participles are unable to assign objective (or, indeed, perhaps any) Case to the underlying direct object NP which is assigned the theme θ -role (but cf. Belletti (1988), who argues that *partitive* Case is assigned here). Thus, to satisfy the Case filter, the Case-less direct object NP in a passive Verb phrase must move from its D-structure position to an S-structure position in which it can receive Case, e.g., nominative Case, in the non-theta preverbal subject position.

1.2 Theta theory

θ -theory (cf. Chomsky (1981:34-48, 101-17)) is concerned with establishing - within syntactic configurations - relations between predicates and their arguments. It is the theoretical concept by which verbal predicates, for instance, are associated with arguments, i.e., NPs or CPs, to which they attribute a semantic function. In the case of the Verb *give*, for example, the lexical entry is characterised by three thematic (or theta (θ)) roles, namely, agent, theme and destination/beneficiary, which constitute the θ -grid of the Verb. A θ -grid is the unordered list of the θ -role(s) which a particular predicate assigns. A θ -role, then, is associated with the particular semantic function of an argument with respect to its predicate. An argument is said to

be θ -dependent on its predicate. A θ -position within a syntactic configuration is one to which a θ -role is assigned by a predicate. It is assumed that Williams' (1980) internal arguments, i.e., object NPs, which are sisters of a verbal predicate, are directly assigned a θ -role, whereas external arguments, e.g., subject NPs, are indirectly assigned a θ -role by the verbal predicate via VP. (See Chomsky (1986b:13) for some modifications to this.) In this way, the definition of θ -positions and θ -marking is entirely dependent on syntactic structure. θ -theory is formalised within GB by the θ -criterion, which is operative at every level of syntactic representation and specifies that every argument (nominal or sentential) must be assigned one and only one θ -role, and that every θ -role must be assigned to one and only one argument.

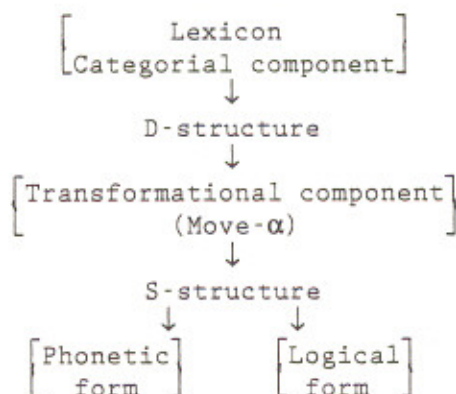
1.3 Chain theory

Chain theory (cf. Chomsky (1986a)) involves the coindexing of syntactic positions and allows the constraints of θ -theory to be made compatible with the flexibility of movement rules. Essentially, where a constituent has been moved by application of Move- α (see the schematic representation of the GB model below), it leaves behind a phonetically null trace of the same category, with which it is also coindexed to form a chain, and is thereby interpreted as coreferential. For example, an NP-trace is coindexed in this way with its nominal antecedent. The head of a chain is its first member, i.e., the position occupied by the constituent concerned before the application of any movement rules. It is to the head of a chain that a θ -role is assigned by virtue of its appearance in a θ -position. Thus, to avoid falling foul of the θ -criterion, the landing site of any movement rule must be a non- θ -position (i.e., either an A-bar position, such as SpecC, or an A-position to which no θ -role has been assigned, such as the dethematised preverbal subject position in sentences containing a passive Verb). Movement from one θ -position to another would lead to double θ -role assignment, and, hence, violate the θ -criterion, which applies to chains in the same way as to individual nominals and which, unlike the Case filter, is operative at all levels of syntactic representation.

Chomsky (1981, chapter 6) does in fact mention the possibility of subsuming Case theory under θ -theory (cf. Chomsky's later (1986a) formulation of proper chain formation).

1.4 The GB model

(3)



2 Research background

Non-verbal ergativity is not entirely new to the research agenda. Giorgi (forthcoming) looks at *nominal* ergativity in Italian. She comes to the conclusion that there is a "strict parallelism" between Verbs and corresponding Nouns (p. 56) and that "[n]ominalisations corresponding to ergative Verbs only assign their θ -roles under N', i.e., as internal ones, and can be said to be ergative in the same sense as their verbal counterparts" (p. 21). Work on *adjectival* ergativity has been carried out on English (Roberts (1988)), German (Grewendorf (1989) and Cinque (1988)) and Italian (Cinque (1987, 1990)).

As yet no consensus seems to have been reached with respect to the existence of ergative Adjectives. At one end of the spectrum, as it were, Abraham (1983), Toman (1986) and Koster (1987:264) claim that Adjectives are characteristically ergative.

Representing a more middle-of-the-road position, Cinque suggests (1987; 1990:2) that there is evidence to support a distinction between a class of Adjective whose 'subject' is an external argument, and a class of Adjective whose superficial 'subject' is an internal argument (base-generated in the structural object position under an A' node and subsequently moved).

At the other end of the spectrum, Burzio (1986), Zubizarreta (1987), Stowell (1987) and Levin & Rappaport (1986) all contend that Adjectives are characteristically unergative. Zubizarreta, for example, says (pp. 10-11) that while nominal and verbal predicates can select lexical internal arguments, adjectival predicates cannot, and, hence, can never be ergative. As for Adjectives such as *proud*, appearing in the sentence *Susan is proud of Jim*, which has traditionally been analysed as transitive with an internal argument bearing a theme θ -role (either (a) within a PP headed by *of*, or (b) as a direct object preceded by a Case-marker *of*), Zubizarreta opts for the former analysis and argues that the argument bearing the theme θ -role is in fact selected not by the Adjective itself, but rather by the Preposition of heading the PP. In reply to Cinque's (1987, 1990) claims that some Italian Adjectives do in fact demonstrate characteristics closely associated with ergativity, Zubizarreta suggests (p. 35fn1) that these Adjectives should in fact be analysed in terms of complex verbal predicates (with a structure which might be represented as [_vV Adj]) which - being verbal in nature - can select a lexical internal argument. As for Burzio, although he denies the existence of ergative Adjectives, he does nevertheless admit (1986:74fn13) to seeing no theoretical reason why this should be the case; he also concedes (1986:226fn1) that the widely recognised class of Raising Adjectives, e.g., *likely* in English, which θ -mark an internal argument only, poses a problem for his analysis of Adjectives as being characteristically unergative.

3 Hypothesis (1)

As a working hypothesis, we shall assume, with Cinque, that, in addition to Verbs and predicate nominals, ergativity can be a characteristic of Adjectives.

The issue of ergative Nouns has been explored, for example, by Giorgi (forthcoming). To our knowledge, no work on ergative Prepositions has appeared, and we have no contribution to make on the matter. However, if it is the case that ergative Prepositions are not attested, a principled account could be formulated. It could, for example, be reasoned that Prepositions are not lexical items at all. (Prepositions in the Germanic and Romance languages belong to a closed class, in sharp contrast to Verbs, Nouns and Adjectives, a

fact which makes reasoning along such lines not entirely incredible.) Then, since θ -roles are only assigned by lexical heads, the inability of Prepositions to assign θ -roles and, consequently, the absence of ergative Prepositions could be explained.

4 Theoretical motivation for hypothesis (1):

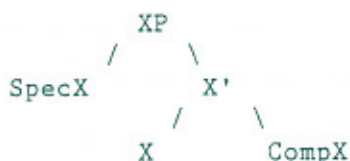
X-bar syntax

In terms of theories of lexical phrase structure, our assumption that the 'class' of ergatives includes Adjectives, is not entirely uncontentious. Ideas about the nature of Adjective phrases in general, quite apart from the relatively recent issue of unaccusativity/ergativity, have been far from harmonious since the rise of generative grammar. Although widely recognized as the maximal projection of a major lexical category on a par with VP and NP, the issue of the internal structure of AP and the differences between AP and the maximal projections of other major lexical categories has provoked some debate.

As already mentioned, Zubizarreta claims (pp. 10-11) that Adjectives cannot select any lexical internal arguments. By contrast, Jackendoff (1977), in his seminal work on phrase structure, claims (p. 32) that no syntactic *subject* (external argument) relation is associated with either Adjectives or Prepositions. Clearly, one of them (at least) must be wrong. Cinque (1990), meanwhile, insists (p. 2) that AP is fully hierarchical, in the same way as VP and NP.

Adopting the basic tenets of Jackendoff's X-bar syntax, major lexical (X^0) categories, i.e., Nouns, Verbs and Adjectives, appear in base forms (as lexical items not derived by syntactic transformation) with their respective strictly subcategorised complements under an X' node. The way in which a lexical head defines its projections obeys the same general constraints and consequently follows the same general patterns. This is true, irrespective of syntactic category and number of bar levels in a maximal projection, i.e., irrespective of whether phrasal categories project in terms of the schema given below in (5) or Jackendoff's earlier (1977:57) proposal repeated in (6):

(5)



(Here, SpecX represents the specifier of the maximal projection in some relevant sense, and CompX represents the strictly subcategorised complement phrases of the head X, including, within VP for example, direct and indirect objects.)

(6)

- If $X''' = X^{\max}$, then:
(a) $X''' \rightarrow X''$, non-restrictive modifier
(b) $X'' \rightarrow X'$, restrictive modifier
(c) $X' \rightarrow X$, functional argument

Thus, where $X = A$, an Adjective phrase, whether A''' or A'' , can have a functional (internal) argument attached to A' (Jackendoff (1977:57)) and, all other things being equal, can be ergative in the same way as Verbs and Nouns (cf. Giorgi & Longobardi (forthcoming b)).

This is not to deny that there are differences between the internal structure of the maximal projections of major lexical categories. For example, Jackendoff (1977) makes the point (p. 58) that, in the case of Adjectives and Nouns, and in sharp contrast to Verbs, strictly subcategorised phrases (internal functional arguments) are usually optional. (The same point is also made in much more recent work by Jensen (1990:101).) There is also a mismatch between the possible branching of V' in contrast to N' and A' . Whereas V' can expand as $[V, V \text{ NP}]$, neither N' nor A' can expand as $[N, N \text{ NP}]$ or $[A, A \text{ NP}]$ (but cf. van Riemsdijk (1983) and Maling (1983) for a reconsideration of this). Thus, a lexical Verb can appear with a direct object (cf. (7)(a)) while a lexical Noun or Adjective cannot (cf. (7)(b) and (d)), normally being obliged to appear with *of* (cf. (7)(c) and (e)).

- (7)(a) Bill hates John
(b) *Bill's hatred John
(c) Bill's hatred of John
(d) *Bill is hateful John
(e) Bill is hateful of John

These differences do not, however, pose a problem for the theory of the lexicon and the categorial component adopted here. Rather, differences between the phrasal projections of lexical items of differing category are attributed not to any property of the argument structure of the lexical items which appear at the head of the maximal projections concerned, nor to the general constraints applicable to the internal structure of phrasal projections; rather, these differences are attributed to more general properties of the language, of the type which Borer (1984:29) terms "canonical" properties. In this particular case, the "canonical" properties of the language are those rules (Fillmore's (1968a, 1968b) 'complement selection rules'; Williams' (1981) 'realisation rules') which determine the way in which the lexical θ -grid, i.e., thematic structure, of a given head X is mapped onto a hierarchical phrasal projection, i.e., syntactic structure. Borer (1984:29), following Williams (1981:89), for example, assumes that canonical properties of this type are specified once for the whole language and do not therefore need to be repeated in the base (lexicon and categorial component).

So, to return to the two examples, given above, of differences between the phrasal projections of major lexical categories, the first could be accounted for by a simple statement, in the *grammar*, of a canonical property of the language, namely that the complements of transitive [+N] heads are optional whereas the complements of transitive [-N] heads are obligatory. As for the impossibility of expanding N' as [_N N NP] or A' as [_A A NP], this can be attributed to Case theory (cf. section 1.1 above), itself part of the canonical properties of language, which obliges all phonetically-realised NPs to bear Case. Since [+N] categories, i.e., Nouns and Adjectives, unlike Verbs, are not Case-assigners, any NP appearing in the configuration [N NP] or [A NP] would be Caseless and result in ungrammaticality. Given that NP-movement is ruled out by the presence of a thematic subject, we can account for the presence of *of* between [+N] heads and their complements, either: (a) *transformationally*, by positing, with Jackendoff (1977:77), a grammatical rule which inserts the preposition-cum-Case-marker as a "specified grammatical formative"; or (b) *lexically*, by suggesting, with Williams (1981:90), that there is an alternative realisation of an internal argument NP bearing the theme θ -role, namely within a PP headed by *of*.

The important consequence of this is that it is not necessary to state in the lexicon that the complements of a [+N] head are optional. Nor is it necessary to include the prepositional Case-marker *of* with the theme arguments of [+N] heads. In this way, the lexical thematic argument structure of the lexical entries from which Nouns and Adjectives are generated can contain an object, in exactly the same way as those of Verbs and Prepositions (Chomsky (1967:204, 219fh28)), and we can capture an important generalisation with respect to lexical thematic argument structure and the categorial component of the grammar.

What is important here is the contention that if the differences which can be identified between the phrasal projections of major lexical categories can be accounted for by general principles, then the thematic argument structure of lexical entries (if not of lexical items) does not need to be sensitive to syntactic category. Seen from this perspective, our assumption that French and other languages have ergative Adjectives alongside ergative Verbs is reduced to a logical and natural consequence of the theory of grammar.

5 Verbal ergativity and Cinque's work on ergative Adjectives in Italian

Quite apart from the concerns of X-bar syntax which offer purely *theoretical* grounds for suspecting that a class of ergative Adjectives might exist alongside unergative ones, there is important *empirical* evidence involving distributional phenomena which points in the same direction: Cinque (1990) has shown that some Adjectives behave in parallel fashion to ergative Verbs. Before we can look at Cinque's (1990) work on ergative Adjectives, we first need to consider verbal ergativity.

5.1 Verbal ergativity

5.1.1 AVB/BV

In work by Burzio (1981, 1986), a reliable indicator of ergativity on the part of a superficially intransitive Verb has been shown to involve that particular class of Verb which appears in so-called AVB/BV sentence pairs, e.g., the English and equivalent French and Italian sentence pairs in (8)-(10) below, in

which the 'same' Verb appears in the (a) and (b) sentences of each pair (transitively in (a), intransitively in (b)):

- (8)(a) The captain **sank** the ship (AVB)
(b) The ship **sank** (BV)

- (9)(a) Le capitaine a coulé le navire
(b) Le navire a coulé

- (10)(a) Il capitano affondò la nave
(b) La nave affondò

The important characteristic of these sentence pairs - quite apart from the fact that the Verbs in each pair are homophonous - is that the *object* of the transitive 'version' of the Verb in the (a) sentences is *interpreted* in the same way as the *subject* of the intransitive 'version' in the (b) sentences. The same θ -role (theme) is assigned and the same selectional restrictions apply to the NP *the ship/le navire/la nave* in each case. The account proposed for structures of this type (which elegantly captures the parallel θ -role assignment properties and selectional restrictions) posits that the NP *the ship/le navire/la nave* is the internal argument (and, hence, base-generated in the structural object position) in both the (a) and (b) sentences. In the case of the (b) sentences, it is assumed: (i) that VP does not assign a θ -role to the external argument; (ii) that the verbal head of VP does not assign accusative Case to its object NP; and (iii) that, in order to satisfy the Case filter (cf. section 1.1 above), the internal argument, i.e., *the ship/le navire/la nave*, must be promoted to the non-thematic preverbal subject position (taking its theme θ -role with it as it goes) where it is assigned nominative Case by the finite Verb.

In this way, we are able to posit the presence of just one verb (*sink*, *couler* or *affondare* respectively) in the lexicon with constant θ -role assignment properties, and, in particular, optional assignment of the external (agent) θ -role. Where this θ -role is assigned, and the object is Case-marked, the (a) sentences above are generated; otherwise, NP-movement is obligatory for the Case reasons already discussed and the (b) sentences are generated.

Burzio (1981, 1986) and Chomsky (1981) have argued that it is not in fact necessary to state explicitly in the above scenario that the Verb does not

assign accusative Case to its object. Rather, they have reasoned (cf. Chomsky (1981:125)) that it is a logical consequence of the failure, on the part of VP, to assign an external θ -role. This linking of θ -role and Case assignment properties has become known as Burzio's generalisation. The formulations of this generalisation in (11)(a)-(b) are taken from Chomsky (1981:125) and Grewendorf (1989:3) respectively:

(11) *Burzio's generalisation*

(a) If some NP governed by V is assigned no Case, then the VP of which V is the head assigns no θ -role.

(b) The subject position has no θ -role iff the object position has no Case.

Burzio's generalisation will be relevant again later in our discussion.

5.1.2 Ne-cliticisation from VP

Working on Italian, Burzio (1981, 1986) and Belletti & Rizzi (1981) provide substantial evidence to support the following generalisation:

(12) *Ne-cliticisation (to V) is possible only from the structural object position.*

(Cinque (1987) suggests that this is probably due to the ECP, i.e., the condition that empty categories be properly governed. Cf. Chomsky (1981:250).)

This generalisation is able to account for the distribution of *ne*: where the postverbal subject of an intransitive Verb is quantified, N' can be pronominalised using *ne* and subsequently cliticised onto the Verb only if it is derived from a direct object position (cf. (13)(a)-(d) below) (Burzio (1986:3, 20, 22)).

(13)(a) *Ne arrivano molti* (ergative)
Of-them arrive many

(b) *Ne sono state affondate [due t]* (passive)
Of-them have been sunk two

(c) *Se ne sono affondate [due t]* (si-passive)
Of-them si sank two

- (d) *Ne telefonano molti (unergative)
Of-them make-a-phone-call many

5.2 Cinque's work on ergative Adjectives in Italian

Cinque notes (1990:2) that, in Italian, there is a class of Adjective which behaves in parallel fashion to the class of Verb mentioned above, i.e., a class of Adjective which (a) appears in "AAdjB/BAdj" configurations (whereby Adj is an Adjective, and A and B are arguments or pseudoarguments) and (b) allows *ne*-cliticisation. Cinque offers (1990:2-3) the Adjectives *certo* and *sicuro* as examples.

5.2.1 AAdjB/BAdj

Consider (14)-(17):

- (14)(a) Gianni è certo che verrò
Gianni is certain that I-will-come

- (b) Che verrò è certo
That I-will-come is certain

- (15)(a) Gianni è sicuro che verrò
Gianni is sure that I-will-come

- (b) Che verrò è sicuro
That I-will-come is sure

- (16)(a) Gianni è certo di questo
Gianni is certain of this

- (b) Questo è certo
This is certain

- (17)(a) Gianni è sicuro di questo
Gianni is sure of this

- (b) Questo è sicuro
This is sure

In these sentences, the B argument of the Adjective can be either sentential (sentence pairs (14)-(15)) or nominal (sentence pairs (16)-(17)) (Cinque (1990:3)).

Cinque extends the obvious parallel which can be identified between these Adjectives and the class of AVB/BV Verb discussed above. He posits unique lexical entries for each of the Adjectives *certo* and *sicuro*, and suggests that assignment of the external experiencer θ -role is optional (1990:3), with similar effects to those discussed above for ergative Verbs. Thus, Cinque analyses the Adjectives in the (b) examples above as ergative, and, taking the effects of the prb-drop parameter into account, posits the following structures for clauses in Italian containing ergative and unergative Adjectives respectively with i(nverted)-subjects:

Internal structure of an Italian ergative AP (Cinque (1990:8))

- (18) [np_i copulative V [AP[A' A NP_i]]]

Internal structure of an Italian unergative AP (Cinque (1990:8))

- (19) [np copulative V [IP np [AP [AP A] NP]]]

Where the subject appears postadjectivally (in Italian), it remains *in situ* (inside AP under the A' node) in the case of an ergative Adjective, but is adjoined to AP in the case of an unergative Adjective. What is important here is the fact that predicative Adjectives are contained within a Small Clause which is selected by the copula. In both cases, the copula is analysed as a Raising Verb, whereby Case filter requirements are met by a chain with the preverbal np. Evidence to support this analysis has been produced, for example, by Couquaux (1981; 1982:33).

5.2.2 *Ne*-cliticisation from AP

That some Italian Adjectives parallel the AVB/BV configurations typical of ergative Verbs is not the only way in which Adjectives in Italian can be seen to behave in similar fashion to ergative Verbs. Cinque notes (1990:5-10) that some also allow *ne*-cliticisation, including that class of Adjective which appears in the AAdjB/BAdj structures discussed above.

Burzio has claimed (1986:74fn13) that *ne*-cliticisation is impossible with all Adjectives, a fact which he uses as evidence to support his contention that no ergative Adjectives exist in Italian, i.e., that there are no Adjectives with an underlying structure resembling (20):

(20) [e] be-Adj NP

Cinque (1990:7) not only disputes Burzio's claim but also lists a number of common Italian Adjectives allowing *ne*-cliticisation (e.g., *noto* (well-known), *chiaro* (clear), *certo* (certain), *sicuro* (sure), *oscuro* (obscure), *probabile* (likely), *prevedibile* (foreseeable), *gradito* (welcome), *implicito* (implicit), *esplicito* (explicit), *evidente*, *ovvio* (obvious)) as exemplified in (21) below (taken from Cinque (1990:7)):

- (21)(a) *Ne* sono note solo alcune (delle sue poesie)
Of-them are well-known only some (of his poems)
- (b) *Ne* sono probabili ben poche (di dimissioni)
Of-them are likely really few (of resignations)
- (c) *Ne* è oscuro più d'uno (di motivo)
Of-them is obscure more than-one (of reason)

We do not know how Burzio (1981, 1986) manages to omit reference to this class of Adjective completely.

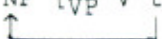
Cinque contrasts the possibility of *ne*-cliticisation in the sentences (21) above with the impossibility of *ne*-cliticisation in the sentences (22) below (again, taken from Cinque (1990:7)), which is indeed typical of most Adjectives:

- (22)(a) **Ne* sono buoni pochi (dei suoi articoli)
Of-them are good few (of his articles)
- (b) **Ne* sono ingiuste molte (di condanne)
Of-them are unjust many (of condemnations)
- (c) **Ne* sono pericolosi molti (di viaggi)
Of-them are dangerous many (of journeys)

(*Ne*-cliticisation does not however appear to be possible from the structural object position within PP (cf. Cinque (1990:5), ex. (10a)). This can be

accounted for if the generalisation in (12) above is sharpened to apply to the structural object position within the phrasal projection of lexical categories only, assuming - as in section 3 above - that Prepositions, bearing the syntactic categorial features [-V] and [-N], are not lexical.)

Among the class of superficially intransitive Adjectives in Italian, Cinque (1990:4) thus distinguishes between: (a) those Adjectives whose subject is generated outside AP; and (b) those Adjectives whose superficial subject is generated in the structural object position and subsequently promoted. The broad structural parallels between ergative Verbs and Adjectives are clear from (23) and (24) below:

(23) [IP NP [vp V t]]


(24) [IP [AP NP [AP A t]]]


6 French

We now turn our attention to ergativity on the part of French Adjectives. Having already provided, in Section 4 above, a theoretical justification for our expectation that ergative Adjectives will exist, this section will be devoted to an exposé of the empirical evidence, in French, in favour of hypothesis (1). Some of the arguments we shall use have been adopted directly from the work on adjectival ergativity by Cinque (1990) and Legendre (1989), while others are reflexes of work on verbal and nominal ergativity in Italian (cf. Burzio (1981, 1986); Giorgi (forthcoming)).

First, we look at the French equivalents of that class of Italian Adjective which can appear in AAdjB/BAAdj configurations (subsection 6.1). Second, in view of the conclusions reached in work on verbal ergativity in French (e.g., Burzio (1986)), we consider the distribution of the pleonastic element *il* with adjectival predicates (subsection 6.2). Third, and finally, we compare Legendre's (1989) account of Participial Equi constructions in French, and the conclusions she reaches regarding ergativity, with those of Cinque (1990) with

respect to the parallel construction in Italian (subsection 6.3).

6.1 AAdjB/BAdj

The French Adjective *certain* has a parallel distribution and interpretation to the Italian *certo* in that it can appear in AAdjB/BAdj configurations, e.g.:

(25)(a) Le ministre est certain que le Président était au courant
The minister is certain that the President was aware

(b) Que le Président était au courant est certain t
That the President was aware is certain

(26)(a) J' en suis sûr et certain t
I of-it am sure and certain

(b) C' est sûr et certain t
It is sure and certain

We shall therefore assume that the lexical argument structure of *certain* parallels that of *certo*, i.e., that the predicate optionally assigns an external experiencer θ -role. Where this θ -role is not assigned, the Adjective is ergative.

6.2 'Extraposition' using pleonastic *il*

Before we discuss the use of the pleonastic element *il*, we should stress that our use of the term *extraposition* is not intended to imply constituent movement from some preverbal position to some postverbal position. Indeed, it is central to the Ergative/Unaccusative Hypothesis that movement is exactly what is *not* involved in these structures. We use the term *extraposition* for no other reason than that it has been used in earlier frameworks of TG to label the structures under consideration.

Burzio (1981, 1986), following Herschensohn (1979, 1982) for example, argues (1986:135ff) that the pleonastic element *il* is not a syntactic clitic and that it is used to fill an empty subject position at D-structure, e.g., with predicates which assign no external θ -role (p. 137). Burzio supports his argument by suggesting that the distribution of pleonastic *il* is uniform over

syntactic domains. It can appear as the subject of ergative Verbs, e.g. (27)(a)-(d) (taken from Le Petit Robert):

- (27)(a) Il est arrivé des visites en votre absence
There were some visitors while you were away
- (b) Il n'est rien sorti de nos recherches
Our research was unsuccessful
- (c) Il naît plus de filles que de garçons
More girls are born than boys
- (d) Il n'entre pas dans mes projets de faire cela
I have no intention of doing that

(Here, it is assumed that the postverbal theme NP is assigned inherent as opposed to structural Case by the ergative Verb (Giorgi (p. 57), but cf. Burzio's generalisation above, and Belletti (1988) for a somewhat different analysis).)

Pleonastic *il* is not usually available with transitive or true intransitive (unergative) Verbs whose (θ -marked) preverbal subject position is filled at D-structure by the external argument, e.g., (28)(a)-(b):

- (28)(a) *Il a tué une victime le meurtrier
It has killed a victim the murderer
- (b) *Il a dansé Jean
It has danced Jean

Even with 'heavy' subject NPs, *il* cannot be used, e.g., (29):

- (29) *Il lui a téléphoné plusieurs écolières de sa nouvelle classe
It to-him has called several schoolgirls from his new form

Again following Herschensohn (1979, 1982), the generalisation which Burzio (1981, 1986) draws from this evidence is that pleonastic *il* is inserted into a clause at D-structure, and then only if the predicate in the clause concerned does not assign an external θ -role, i.e., *il* is analysed as being base-generated in the subject position (1986:143). Given the data presented above, Burzio's conclusions seem justified.

Generalising these conclusions from verbal to adjectival predicates, if ergative Adjectives exist in French, we would expect to find that some Adjectives, i.e., the ergative ones, allow 'extraposition' using pleonastic *il* while others, i.e., the unergative ones, do not. This is, however, not generally the case, as noted by Burzio (1986) and Cinque (1990:30) and illustrated in (30) and (31) below:

- (30)(a) *Il est heureux(se) Anne-Marie
 It is happy Anne-Marie
- (b) *Il paraissait bon(ne) cette boisson
 Il seemed good this drink
- (31)(a) *Il est enceint(e) ma mère
 It is pregnant my mother
- (b) *Il est facile cette étude
 It is easy this study

Here, not only true intransitive Adjectives (cf. (30)), but also Adjectives which we have reason to suspect are in fact ergative (cf. (31)) do not allow 'extraposition' using pleonastic *il*. Nevertheless, Cinque argues that these data should not lead us to conclude that the Adjectives in (30), for example, are not ergative. He says that, since Adjectives, and [+N] categories in general, are not Case-assigners (not even inherent Case-assigners, in contrast to ergative/passive Verbs), the unacceptability of the strings in (30) can be attributed to the fact that the postadjectival NPs bear no Case. In other words, unlike ergative Verbs, which assign inherent (but not structural) Case to the direct objects they select, the object NPs selected by ergative Adjectives are not assigned any Case at all.

One question nevertheless remains unanswered here, namely: Why can these ergative Adjectives not appear with the Preposition-cum-Case-marker *de* which could, after all, serve to satisfy the Case filter? We have no intuitive explanation for this, but it is perhaps the case that, where possible, NP-movement is preferable, and that the non-Case-marked object of an ergative Adjective is obliged to move to the Case-marked subject position if that position is available.

Burzio concedes (1986:175fn63), however, that there are indeed some ergative Adjectives in French which can appear together with the pleonastic subject pronoun *il*, whereby the theme argument remains *in situ*, e.g., (32), which contrasts with (33):

(32) *Il est facile [de chanter]*
It is easy to sing

(33) **Il est facile [NPceci]*

The acceptability of (32) above and the contrast between this and the unacceptability of (33) can again be accounted for by recourse to Case theory. Since sentential arguments are not obliged to bear Case, the complement *de chanter* of the Adjective *facile* in (32) does not have to move and can remain *in situ* in its non-Case-marked base-generated position. Presumably, this is only possible where the Adjective concerned is ergative and can select a clausal argument. Not surprisingly, the same pattern is demonstrated by the Adjective *difficile*, i.e., (34):

(34)(a) *Il m'est difficile d' en parler*
It to-me-is difficult to about-it speak

(b) **Il m'est difficile ceci*

We thus analyse the French Adjectives *facile* and *difficile* as ergative.

Interestingly, the Adjective *certain* can also appear in a configuration with pleonastic *il*, e.g., in sentences (35) and (36) below. However, due to the ambiguous nature of the element *il*, i.e., since *il* can be either an argument or a non-argument, these strings are also correspondingly ambiguous.

(35) *Il est certain que le Président en était au courant*
It/he is certain that the President of-it was aware

(36) *Il est certain que Jacques vienne*
It/he is certain that Jacques in coming

Numerous other French Adjectives appear in AAdjB/BAdj configurations similar to *certain/certo* but which are different in that they never assign an external θ -role. That is, they appear in AAdjB/BAdj configurations in which the A

element is always a non- or pseudo-argument. In these cases, since the theme argument is sentential and therefore not in need of Case-marking from the Adjective, it can remain *in situ* and the empty subject position is filled by *il*, e.g., in (37).

- (37) *Il est peu probable que Pierre soit là*
It is hardly likely that Pierre is there

However, it does not appear to be the case that ergative Adjectives alone licence this type of construction. Consider the data in (38)(a)-(e) below (taken from Le Petit Robert):

- (38)(a) *Il est bon d'être gentil*
It is good to-be nice
- (b) *Il est dangereux de se pencher au dehors*
It is dangerous to lean out
- (c) *Il serait intéressant de poursuivre les recherches*
It would-be interesting to continue the research
- (d) *Il ne serait pas mauvais de s'en souvenir*
It would-not-be bad to remember
- (e) *Il serait souhaitable qu' elle fasse un bon mariage*
It would-be desirable that she make a good marriage

These data pose a problem for the analysis of *il*-insertion summarised above. For, although we have no reason to assume that the Adjectives which appear in sentences (38)(a)-(e) above are ergative, they nonetheless appear with the pleonastic element *il* as their superficial subject. If the Adjectives are indeed unergative, then the clausal phrase which appears postadjectivally is an external argument which, in the terms of our analysis thus far, should be incompatible with the appearance of *il* as impersonal subject. We have no comment to make on this matter which might solve the dilemma, other than to assume that, on the basis of our understanding of the distribution of *il*, the external clausal argument is in some way base-generated in its surface position, to the right of the Adjective.

6.3 Participial Equi

Legendre (1989) uses what she terms the 'Participial Equi' construction in French (Perlmutter's (1978b) and Cinque's (1990) 'Absolute Construction') to distinguish between verbal predicates which subcategorise for a direct object (internal argument) and those which do not. Consider the data in (39)(a)-(g) below (taken from Legendre (1989:121-2)):

- (39)(a) *Ecrasée t par ses soucis, Marie oublia de téléphoner à ses parents*
Burdened by her worries, Marie forgot to call her parents
- (b) *Haï t par tous ses collègues, Pierre décida de démissionner*
Disliked by all his colleagues, Pierre decided to resign
- (c) *Arrêté t par la police, Jean subit une longue interrogation*
Arrested by the police, Jean underwent a long interrogation
- (d) *Méprisé t par sa famille et ses amis, Paul tenta de se suicider*
Despised by his family and friends, Paul attempted to commit suicide
- (e) *Avertis t d'un danger (par les hôtesses), les passagers mirent leur gilet de sauvetage*
Warned about a danger (by the stewardesses), the passengers put on their life jackets
- (f) *Chargée t d'une course urgente (par son patron), la secrétaire appela un taxi*
Put in charge of an urgent errand (by her boss), the secretary called a taxi
- (g) *Habité t par une riche famille américaine, le château avait été complètement restauré*
Inhabited by a rich American family, the castle had been completely restored

In examples (39)(a)-(g), the passive participle at the beginning of each sentence is derived from a transitive Verb. Accordingly, *t* represents a trace of the direct object which the predicate selects at D-structure. Given that the passive morphology which appears on the Verb suppresses the external argument of the verbal predicate (Cinque (1990:25)) and, consequently, the ability of the Verb to assign structural Case to the internal argument (cf. Burzio's generalisation in (11) above), Legendre (1989:125-6) assumes that the underlying object of the passive Verb is promoted to the subject position for Case reasons, before being deleted under Equi (with the subject of the matrix clause). The

prediction which Legendre's analysis allows her to make is that the 'passive' participle of ergative and reflexive Verbs will also be able to appear in parallel constructions, since the subject of an ergative or reflexive Verb is base-generated as an internal argument and will thus not be suppressed by the passive morphology. This predication is indeed borne out, e.g., in (40)(a)-(d), in the case of ergative Verbs, and in (41)(a)-(c), in the case of reflexive Verbs (taken from Legendre (1989:122-3)). (Again, *t* represents the trace left behind after movement of the internal argument from its base-generated position.)

- (40)(a) Parti *t* avant l'aube, Pierre est arrivé le jour même à destination
(Having) left before dawn, Pierre arrived at his destination the same day
- (b) Mort *t* prématurément, son père n'avait pas laissé de testament
(Having) died prematurely, his father did not leave a will behind
- (c) Restée *t* seule à la maison, Marie se mit à pleurer
(Having) stayed at home alone, Marie started to cry
- (d) Tombé *t* de la chaise, le bébé se mit à hurler
(Having) fallen from his chair, the baby started to scream
- (41)(a) Assis *t* au premier rang, les enfants ne quittaient pas la scène des yeux
Seated in the front row, the children couldn't take their eyes off the stage
- (b) Evanouie *t* à la vue des blessés, l'infirmière dût être ranimée par le docteur
(Having) fainted at the sight of the injured, the nurse had to be revived by the doctor
- (c) Recroquevillée *t* dans un coin, la petite fille pleurait silencieusement
Curled up in a corner, the little girl was crying silently

Further, Legendre's analysis allows her to predict that the Participial Equi construction will not be possible in the case of true intransitive (unergative) Verbs. Here, the subject of the Verb is an external argument and does not meet the condition for the construction since, if passive morphology could appear on the Verb, the external θ -role would be suppressed and unavailable for Equi. And, again, Legendre's prediction is borne out, e.g., in (42)(a)-(d) below (taken from Legendre (1989:123-4)).

- (42)(a) *Réagi, le président a été félicité par la presse
(Having) reacted, the president was congratulated by the press
- (b) *Travaillé toute la matinée, il dormit tout l'après-midi
(Having) worked all morning long, he slept all afternoon long
- (c) *Régné sur une grande partie de l'Europe, Napoléon était considéré comme un tyran
(Having) reigned over much of Europe, Napoleon was considered a tyrant
- (d) *Résisté aux avances du metteur en scène, la jeune actrice a perdu son rôle
(Having) resisted the director's advances, the young actress lost her role

To be available for Participial Equi, then, Legendre (1989) seems justified when she claims that a verbal root of the passive participle must subcategorise for a direct object (p. 125), which is subsequently promoted to the subject position (p. 126) (due to the appearance on the Verb of passive morphology) before being deleted under Equi. Unergative, i.e., true intransitive, Verbs are thus not available for Participial Equi.

Legendre (1989) then goes on to note that a similar construction to her Participial Equi construction is also available with the Adjectives which appear in (43)(a)-(c) below (taken from Legendre (1989:123)).

- (43)(a) Malade, Marie est restée à la maison
Sick, Marie stayed at home
- (b) Enceinte, Marie a préféré ne pas sauter
Pregnant, Marie preferred not to jump
- (c) Indifférente à tout, Marie a sombré dans le désespoir
Indifferent to everything, Marie sank into despair

Legendre assumes that the same conditions apply to an Adjective as apply to a passive participle and concludes that the Adjectives in (43)(a)-(c) above are in fact ergative, whereby the NP *Marie* is the underlying object of the Adjectives concerned but, again for Case reasons, is promoted to the subject position before being deleted under Equi, in exactly the same way as with the passive participles discussed above. The predictive power of Legendre's analysis would lead us to presume (as indeed Legendre's exposé implies) that unergative Adjectives will not appear in such constructions. However, Legendre does not

give any examples of Adjectives which cannot be used in such constructions. Furthermore, Cinque (1990:24-7) claims that the equivalent construction in Italian, which he terms the Absolute Construction (after Perlmutter (1978b)), "unexpectedly fail[s] to discriminate between ergative and unergative Adjectives" (p. 24), and he gives numerous examples (pp. 26-7) of Adjectives, both ergative and unergative, used as absolute adjuncts. Cinque (1990) argues that this is possible due to the fact that Adjectives are "generally capable" (p. 27) of externalising their external θ -role, and therefore not a problem for the distinction between ergative and unergative Adjectives. Unfortunately, Cinque (1990) does not go into more detail.

7 Adjectives derived from ergative Verbs

Having established, albeit marginally, the existence of a 'class' of ergative Adjectives distinct from unergative Adjectives, we come now to the question of whether deverbal Adjectives which are morphologically related to ergative Verbs are also ergative. As mentioned above, Cinque (1990) - who readily recognises the existence of ergative Adjectives - denies (p. 1) that deverbal Adjectives related to ergative Verbs are themselves ergative. He claims that this is due to the way in which deverbal Adjectives are morphologically derived. We shall discuss his reasoning below. Cinque (1990:3) speculates further that it is perhaps due to the lack of this 'predicted' class of ergative Adjectives, i.e., those which are morphologically related to ergative Verbs, that some linguists (e.g., Burzio) have rejected ergative Adjectives altogether.

8 Hypothesis (2)

As we have seen, whether a lexical Verb, Noun or Adjective is ergative or not depends on the thematic structure of the lexical entry from which it is generated. For methodological reasons, we shall assume, contrary to Cinque (1990), that Adjectives which are morphologically related to ergative Verbs have the same thematic structure as their related Verbs and are therefore also ergative.

9 Theoretical motivation for hypothesis (2):

The Lexicalist Hypothesis

The theoretical motivation for our second hypothesis is based in particular on work by Chomsky. In his 1967 paper "Remarks on Nominalisation", which was published in 1970 (to which our page references apply), he first proposed the Lexicalist Hypothesis (henceforth LH), which was to be fleshed out considerably by subsequent work on X-bar syntax, e.g., Jackendoff (1977). The thrust of the LH was this: (i) since morphologically related lexical items are generally subject to parallel (but unique) selectional restrictions and have parallel (but unique) distributional properties, e.g., (44) and (45) below; and (ii) since the thematic argument structure of a given lexical entry is compatible with realisation as the syntactic complement structure of a lexical head of any syntactic category (cf. section 4 above), then these distributional and selectional properties need only be specified once in the lexicon.

- (44)(a) Susan refused to sleep with John
- (b) Susan's refusal to sleep with John

- (45)(a) Susan refused John's offer
- (b) Susan's refusal of John's offer

If, alternatively, Nouns such as *eagerness*, *refusal* and *belief* are generated from lexical entries which are independent of those of their related Verbs or Adjectives, the parallel selectional restrictions and subcategorisation properties would need to be repeated, and a significant generalisation would therefore be missed (Chomsky (1967:195)). Such a hypothesis is unable to provide a principled account for these subcategorisation parallels. Rather, it would have to be concluded that they were due to chance alone, hardly a satisfactory solution.

The major consequence of the LH (as formulated in Chomsky (1967)) was therefore the need to make subcategorisation information, specified once and once only, available to more than one lexical item. Following the demise of the generative semantic approach to morphology, i.e., category-changing syntactic transformations and the syntactic derivation of lexical items, there were two possible ways of doing this: either (a) to assume one lexical entry per lexical

item, whereby lexical redundancy rules ensure that the thematic argument structure (subcategorisation properties), specified once, say, for the Verb, apply to all other relevant entries; or, (b) to assume that lexical items related by derivational morphology are generated from a single, category-neutral lexical entry (Jackendoff (1977:11, 16)).

It may be the case that the issue is not really important to us here, i.e., that this is more a matter of execution than a point of theoretical import. Nevertheless, Jackendoff (1977) opts for the former, concluding (p. 18) that Nouns and Adjectives have separate, but related, lexical entries, whereby lexical redundancy rules maintain selectional restrictions, whereas Chomsky's (1967) formulation of the LH supports the latter, positing (p. 199) that morphologically related lexical items should be represented in the lexicon as single, categorially underspecified entries with certain unique θ -marking and selectional properties. Chomsky (1967) puts forward a tentative hypothesis, namely that lexical entries have fixed contextual features, but are un- or, rather, underspecified with respect to lexical category, i.e., "with a choice as to the features associated with the lexical categories Noun, Verb, Adjective" (p. 190). (I shall argue below that the issue of deverbal Adjectives provides some evidence to back up Jackendoff's rather than Chomsky's conclusion.)

Consequently, although it was recognised that "gerundive nominalisation involves a grammatical [i.e., syntactic] transformation from an underlying sentence-like structure" (Chomsky (1967:187), *our italics*), other nominalisations were regarded as the output of lexical processes and, hence, base forms as opposed to transforms. Chomsky (1967:188) suggests that the lexical analysis of these processes is supported by the fact that non-gerundive nominalisation is not particularly productive and quite idiosyncratic. Many restrictions are involved in the derivation of nominals. Furthermore, the nature of the *semantic* relationship between Verbs and morphologically derived Nouns/Adjectives can also be quite varied and idiosyncratic. Chomsky reasons that these facts alone seriously undermine any attempt to derive morphologically related (non-gerundive) lexical items by a syntactic transformation. As he says (1967:189): "The idiosyncratic character of the relation between the derived nominal and the associated Verb has been so often remarked that discussion is superfluous". Jackendoff agrees (1977:7): "None of the relationships among

lexical items can be accounted for transformationally".

Presumably, the same also applies to derived Adjectives. Parallel complement structures are certainly also found with derived Adjectives, e.g. (46)(a)-(c), (adapted from Jackendoff (1977:69)):

- (46)(a) Peter [Vtalked] about the war with Bill
(b) Peter's [Ntalk] about the war with Bill
(c) Peter was [Atalkative] about the war with Bill

As Chomsky (1967:204, 219fn28) points out, in each case the complement structure of the lexical head is preserved. Thus, it can be assumed that morphologically derived Verbs, Nouns and Adjectives inherit the same argument structure.

In more recent work, Borer (1984:17) argues that the lexical approach to derivational morphology reflected in the LH is in fact a natural consequence of Chomsky's (1981) Projection Principle, which Borer construes (pp. 17-20) as a condition on features as opposed to a condition on assignment relations, thus preventing syntactic rules from changing lexical specifications. In this way, it is concluded that the process which derives the Adjective *enjoyable* from the Verb *enjoy* must be lexical since it would otherwise entail the loss of a feature of the lexical item, i.e., ability to assign Case, which would constitute a Projection Principle violation. According to Borer (p. 20), all rules which are effective Projection Principle violations, i.e., most category-changing affixation processes in derivational morphology, must apply presyntactically, i.e., be lexical in nature.

Lieber (1980, 1983) formalises the process by which Borer's (1984) "condition on features", for example, could operate with what she calls "Feature Percolation Conventions". Here, features of the morpheme(s) which make up a word are interpreted as features of the word as a whole. The two of Lieber's four feature percolation conventions which are of interest to us here are repeated below:

- (47) *Convention I*
All features of a stem morpheme, including category features, percolate to the first nonbranching node dominating that morpheme.

(48) *Convention II*

All features of an affix morpheme, including category features, percolate to the first branching node dominating that morpheme.

Essentially, all features percolate but those of affix morphemes (i.e., derivational morphology morphemes) take precedence over those of stem morphemes. Among the features percolated are those indicating the category and thematic argument structure of the stem, e.g., in (49) below (abstracting away from morphophonological matters).

(49) $[[\text{destroy}]_V \text{tion}]_N$

Here, since the category features of the affix are incompatible with those of the stem, it is those of the affix which win the day, and the derived lexical item is a Noun. However, since the affix has no inherent argument structure features, those of the stem will percolate up and become those of the derived Noun.

A Noun or Adjective which is morphologically related to an ergative Verb is, according to Chomsky's LH, little more than a different morphological realisation of the same lexical entry and, in the unmarked case, should inherit the same thematic structure. If this is indeed the case, a Noun or Adjective which is related to an ergative Verb will also be ergative.

10 Two deverbal adjectivisation processes associated with ergative verbal stems

We come now to a consideration of two processes in French derivational morphology which, given hypothesis (2) and our discussion thus far, we assume will generate ergative Adjectives. The first of the two processes involves *-able* affixation onto a verbal stem (subsection 10.1). The second involves the derivation of adjectival passive participles (subsection 10.2). In subsection 10.3, we address the issue of whether the Adjectives derived by these morphological processes are indeed ergative.

10.1 Adjectives formed using the -able suffix

Working within the broad framework of the LH, Aronoff (1976:123-6) assumes that the productivity of the morphological rule which suffixes -able (or its equivalent in other languages) onto verbal stems is dependent upon transitivity on the part of the stem. While distinguishing between two kinds of -able suffixation, he states quite categorically (p. 126) that, where the stem concerned is verbal in nature, it is always transitive, i.e., selects both a subject and a direct object. Although this is true of such Adjectives in English as *extendable* and *lovable*, it is clearly not the case with *durable* or *perishable*. The Adjective *durable* is derived from the now almost obsolete intransitive (ergative) Verb *dure*. As for *perishable*, the Verb *perish* has both transitive and intransitive uses, whereby there are both semantic and syntactic grounds for suspecting that intransitive *perish* is in fact ergative. (The Verb is an inchoative (cf. Perlmutter (1978a)) and can appear in AVB/BV configurations (see above).) Moreover, Chambers defines the Adjective along the lines of 'something which perishes easily', i.e., derives the meaning of the Adjective from that of the intransitive (ergative) Verb.

The situation in French, which has the equivalent Adjectives *durable* and *périssable*, is even less contentious. The two Adjectives are derived from the same stem as the ergative Verbs *durer* and *périr* respectively, in similar fashion to in English. However, unlike the situation with English, the French Verb *durer* is not obsolete, and the Verb *périr* is strictly intransitive (Le Petit Robert).

In work which correctly accounts for this data, Horn (1980:139) states that -able affixation is possible not only with transitive verbal stems, but with any verbal stem which selects a direct object as a lexical property (irrespective of whether it selects a subject). The Adjective is then always associated with the NP in structural object position. Formulated in these terms, the morphological process is then compatible with the stem of a transitive Verb or an ergative Verb (both of which select a direct object as a lexical property) but incompatible with the stem of an unergative (true intransitive) Verb (which does not). Horn (1980) thus posits (p. 140) a lexical rule of -able affixation in terms of the structural object position.

This analysis of the derivation of *-able* Adjectives would seem empirically adequate for French. Adjectives ending in *-able* do indeed exist with transitive and ergative verbal stems (cf. (50) and (51) respectively), but not with unergative verbal stems (cf. 52).

(50) *adorable, aimable, faisable*

(51) (a) *périssable* (= qui périt)
 (b) *durable* (= qui dure)
 (c) *flottable* (= qui peut flotter)
 (d) *nuisible* (= qui nuit)

(52) **travaillable, *téléphonable, *marchable*

10.2 Adjectival passive participles

Adjectival passive participles in French are derived from corresponding verbal participles, which are themselves based on (verbal) past participles. All French Verbs have a past participle, but not all Verbs have verbal and adjectival passive participles. Transitive and ergative Verbs have passive participles, both verbal and adjectival, whereas unergative Verbs have neither. This can be explained with reference to the process by which passives are derived.

It is generally accepted that the appearance of passive morphology on a Verb has the effect of suppressing the external θ -role ('dethematising' the subject position). (Concomitant with this (see Burzio's generalisation in (11) above) is the inability of passive participles to assign Case to the structural object position.) So, in the case of transitive Verbs, the passive morphology serves to suppress the external θ -role (usually the agent), leaving the internal θ -role intact. In the case of ergative Verbs, since no external θ -role is assigned at D-structure, passivisation applies vacuously. The absence of passive participles based on unergative Verbs is explained by the fact that passive morphology would suppress the only θ -role the Verb assigns, i.e., its external one, leaving it unable to assign any θ -role at all.

In the case of verbal passive participles, then, the passivisation process simply suppresses the external θ -role. The internal θ -role is still assigned as

before and, hence, verbal passive participles can be said to be ergative. The question remains as to the status of adjectival passive participles. As in the case of -able Adjectives, the analysis of the derivation of adjectival passive participles seems empirically adequate for French (see (53)-(55) below): transitive and ergative verbal stems can be used to derive adjectival passives whereas unergative stems cannot.

- (53)(a) Le travail fait fut bon
The work done was good
- (b) Le refrain chanté m'a passionné
The chorus sung enthralled me
- (c) L'article présenté n'a intéressé personne
The article presented was of no interest to anyone
- (54)(a) Personne ne connaissait l'homme parti
No-one knew the man who left
- (b) Une photo de l'enfant disparu figure dans tous les journaux
A photograph of the missing child is in all the papers
- (c) La voiture arrivée en dernière position était la mienne
The car which arrived last was mine
- (55)(a) *La femme travaillée était très fatiguée
The woman worked was very tired
- (b) *L'homme politique parlé est membre du PS
The politician spoken is a member of the PS
- (c) *L'enfant crié avait faim
The child cried was hungry

10.3 Ergative or unergative?

The issue at stake now is whether the 'subject' of an -able Adjective or adjectival passive participle, which is derived from the direct object of the corresponding Verb, is also the underlying direct object of the Adjective, i.e., whether -able Adjectives or adjectival passive participles are ergative. We do not believe they are.

Our conclusion can be supported by reference to the tests for ergativity already discussed. Firstly, it is clear that -able Adjectives and adjectival passive

participles derived from transitive Verbs do not enter into the AAdjB/BAAdj alternations discussed in sections 5.2.1 and 6.1 above. (As for Adjectives derived from exclusively ergative verbal stems, there is no A, i.e., external argument available for the construction.) Consider the strings in (56):

- (56)(a) *Un bon fils est adorable sa mère
A good son is adorable my mother
- (b) *Un mauvais élève n'est pas faisable ses devoirs
A weak pupil is-not doable his homework
- (c) *Un bon fils est adoré sa mère
A good son is adored his mother
- (d) *Un mauvais élève n'est pas fait ses devoirs
A weak pupil is-not done his homework

Secondly, -able Adjectives and adjectival passive participles, even those derived from exclusively ergative verbal stems, do not allow 'extraposition' using pleonastic *il*. Consider the strings in (57):

- (57)(a) *Il est adorable ma mère
It is adorable my mother
- (b) *Il est périssable(s) des légumes
It is perishable some vegetables
- (c) *Il est durable un disque audionumérique
It is durable a CD
- (d) *Il est adoré(e) ma mère
It is adored my mother
- (e) *Il est péri(s) des légumes
It is perished some vegetables
- (f) *Il est duré un disque audionumérique
It is lasted a CD

(Here, it must nevertheless be conceded that Case considerations also rule out the above strings.)

Finally, as for the issue of Legendre's (1989) Participial Equi (Cinque's (1990) Absolute Construction), Cinque, unlike Legendre, recognises that the possibility of the construction with Adjectives (in sharp contrast to Verbs) offers no

insights into the lexical thematic argument structure of the Adjectives anyway.

We therefore feel justified when we conclude that the output Adjectives from these morphological rules are unergative, contrary to what the theory of grammar led us initially to assume.

11 Morphological derivation of Adjectives

In the light of our unexpected results, we now consider accounts which have been proposed in the literature to account for the data.

In Cinque's analysis, morphologically related Nouns and Verbs are derived by affixation onto a stem which is unspecified as to whether it is a Verb or a Noun (cf. (58) below for Italian, taken from Cinque (1990:34)), and from which the output lexical items inherit a thematic argument structure by an appropriate mechanism, e.g., the one proposed by Lieber (1980, 1983) and discussed above.

(58) [V/N appar-] $\begin{cases} (i)re (V) \\ (i)zione (N) \end{cases}$

By contrast, where a Verb and Adjective are morphologically related, e.g., with adjectival passive participles, the Adjective is not derived from a category-neutral stem; rather, it is derived from a fully-specified Verb, i.e., as in (59) below.

(59) [A [V past participle X]]

Thus, according to Cinque, whereas the derivation of morphologically related Verbs and Nouns entails category specification of an underspecified input, the derivation of morphologically related Adjectives entails category conversion of a verbal input, which necessarily affects lexical thematic structure (1990:35). Formally, the effect which Cinque (following Borer (1984:24)) attributes to the morphological category-conversion process is:

- (i) to externalise the internal θ -role, and
- (ii) to eliminate the [NP, VP] position.

In this way, the internal argument of the verbal stem becomes the external argument of the Adjective, whereby the Adjective is no longer ergative at all. To our knowledge, three accounts have been proposed of the mechanism by which the morphological rule affects the input argument structure.

Levin & Rappaport, for example, suggest (1986:658) that (i) and (ii) above do not need to be specified in the morphological rule itself since they are logical consequences of the category-conversion process on the one hand and the predication principle on the other: an AP must be predicated of something. As *Cinque* points out though, this argument is not entirely plausible, since it predicts, as *Levin & Rappaport* admit and endorse, that no ergative Adjectives exist at all. Given the first half of our discussion, this is hardly a conclusion we can accept.

Cinque's own (1990) account of the externalisation of the internal argument is more theory internal: Assuming that θ -role assignment is only possible under sisterhood (cf. *Chomsky* (1981)), a transitive or ergative Verb assigns an internal θ -role under a V' node. However, if the Verb is first converted into an Adjective and the internal argument were attached to the A' node, the Verb and its object would no longer be sisters, and θ -role assignment would be impossible. In contrast, since assignment of the external θ -role is a composite process, the Verb can nevertheless contribute to the assignment of this θ -role to the 'subject' position, irrespective of how deeply embedded the Verb itself is. Thus, the only way for the internal theme argument of the Verb to receive its θ -role subsequent to category conversion is for it to be externalised lexically. Once this has happened, of course, the Adjective is no longer ergative.

The third account of the effects of derivational morphology on lexical argument structure is that proposed by *Williams* (1981). Here, *Williams* posits (p. 90) that (apart from any possible semantic or morphophonological effects) morphological rules can only affect the external argument of the input lexical entry, and in only one of two ways. The morphological rule can either:

- (i) externalise one internal argument
(represented as E(X), where X designates a specified internal argument),

or

- (ii) internalise the external argument
(represented as I(X)).

In each case, a given argument is identified by the θ -role it bears (cf. Levin & Rappaport, p. 628). It is the former of the two which is of interest to us here. Williams postulates, namely, that both the morphological rule which affixes -able onto a verbal stem to derive an Adjective and the rule which converts a verbal passive participle into an adjectival passive participle entail externalisation of an internal argument, i.e., E(X).

The precise effect of E(X) is as follows (following Williams (1981:92)): (a) the external argument (if there is one) loses this special status, becoming an internal argument by default; (b) the specified internal argument is promoted to the status of external argument. Where $X=\emptyset$, no internal argument is promoted. In the case of the morphological rules which derive Adjectives by means of -able affixation or by passive participle category conversion, Williams (1981) proposes (p. 93) E(Theme), i.e., externalisation of the internal argument which bears the theme θ -role. He justifies this by arguing, following Wasow (1977), that -able Adjectives and adjectival passive participles always have subjects bearing the theme θ -role as in (60) below, irrespective of the argument structure of the input verbal stem (cf. also Levin & Rappaport, pp. 625-9). So, where, for example, a verbal stem has an internal argument in addition to the one bearing the theme θ -role, this other internal argument will not be eligible for externalisation.

- (60) Theme Hypothesis (TH)
The subject of an adjectival passive or -able Adjective must be the theme of the Verb from which the Adjective is formed.

(Cf. Levin & Rappaport for a critique of Williams' (1981) Theme Hypothesis.)

Williams (1981) thus distinguishes between verbal and adjectival passives based on the past participle in the following way. The derivation of verbal passive participles involves E(\emptyset), a process which internalises the external argument

(irrespective of the θ -role it bears) without externalising any internal argument. Without an external argument, Burzio's generalisation predicts that the Verb will be unable to assign accusative Case to its direct object, a scenario in which NP-movement becomes obligatory. The derivation of adjectival from verbal passive participles, in contrast, involves category conversion (from [-N] to [+N]) and E(Theme). Since the verbal passive participle has already 'lost' its external argument, E(Theme) serves only to externalise (lexically) the internal argument which bears the theme θ -role. Thus, by the time an adjectival passive participle is inserted, as a base form, into a tree by the syntactic component, its theme has the status of external argument, making the Adjective indistinguishable from any other with an external theme argument.

Thus, as Borer (1984:21-3) points out, the two morphological affixation processes, i.e., -able adjectivisation and adjectival passive formation, being lexical in nature, are invisible to the syntactic component, which is oblivious, as it were, to the ergative past of the verbal stems concerned.

(Cf. Dryer (1985) and Poser (1982) for a critique of Williams' (1981) argument.)

Williams' (1981) view is compatible with that of Lieber (1980) and Borer (1984). Lieber posits (p. 28) that affixes are listed in the lexicon with specified insertion frames which supply a structural description for the application of the relevant morphological rule which attaches the affix as well as an account of any changes to the argument structure of the derived lexical item.

12 Discussion

By reference, in the main, to the results of tests which have been adapted from analyses of verbal ergativity in French and Italian and others more specifically related to Adjectives, proposed by Cinque (1990) and (albeit less successfully) by Legendre (1989), we feel we can safely conclude that the class of intransitive Adjectives in French can be subdivided, in the same way as the class of intransitive Verbs (and predicate nominals), into one 'class' of ergatives and one of unergatives. Thus, hypothesis (1), i.e., our first prediction based on the theory of grammar (the X-bar theory of phrase

structure), is borne out.

In contrast, it would seem that our exploration of the more pertinent issue of deverbal Adjectives which are morphologically related to ergative Verbs would lead us to reject the validity of our second prediction based on the theory of grammar (Chomsky's (1967) LH). It does not seem to be the case that these deverbal Adjectives are themselves ergative, despite the fact that the Verbs with which they share a common stem are ergative.

Since hypothesis (2) is based on current grammatical theory, our conclusions raise the issue of the extent to which Chomsky's (1967) formulation of the LH is tenable. Given that its central claim is that morphologically related lexical items should be directly generated from single lexical entries which have unique subcategorisation properties but are unspecified with respect to syntactic category and that, as Chomsky puts it (1967:199), "it would be quite reasonable to expect that certain items might appear, with fixed contextual features, in more than one of these categories", it would seem that our discussion and conclusions here for French (which serve only to confirm those of Cinque (1990) for Italian) seriously undermine any strong formulation of the LH. The LH implies that Adjectives in addition to Verbs and Nouns are directly generated from categorially unspecified lexical entries, inheriting the common thematic argument structure. This is not the case. The morphologically derived Verbs and Adjectives under consideration here do not have "fixed contextual features": the (ergative) Verbs subcategorise for and θ -mark an internal argument, whereas the corresponding (unergative) Adjectives just θ -mark an external argument.

Cinque (1990), as mentioned above, comes to the same material conclusions for Italian as we do for French, i.e., that Adjectives which are morphologically related to ergative Verbs are not ergative themselves (in contrast to the situation with derived nominals). Nevertheless, he argues that the Italian data are compatible with the LH as expounded in Chomsky's (1967) "Remarks" paper. Cinque (1990) says that a lexical entry, e.g., [appar-] in (58) above, can somehow bear a combination of features which will make it compatible with both a Noun and a Verb but not an Adjective.

We would argue that the results in fact pose more of a problem for Chomsky's (1967) LH than Cinque (1990) would give them credit for. Given the system of distinctive features adopted here to determine major lexical category, i.e., $[\pm N, \pm V]$, we would like to suggest that to say that a lexical entry can be able to generate both a Noun ($[+N, -V]$) and a Verb ($[-N, +V]$) but not an Adjective ($[+N, +V]$) is not only quite unnatural, but also contradictory to Chomsky's (1967) formulation of the LH.

We shall address these two issues separately. First, to be compatible with both a Noun and a Verb but not an Adjective, a given lexical entry would need to bear the features $[\alpha N, \beta V]$, where:

- (i) α and β are members of the set $\{+, -\}$;
- (ii) and $\alpha \neq \beta$.

which, we feel, does not constitute a 'natural' set of any sort.

Second, Chomsky (1967) speaks in terms of *category-neutral* lexical entries used to generate *category-specific* lexical items. However, if a given lexical entry bears the features $[\alpha N, \beta V]$ in the terms discussed above and, accordingly, is unable to generate an Adjective, it is not really un- or underspecified with respect to lexical category at all. If anything, it is overspecified in that Adjectives are specifically excluded.

We therefore feel that the issue of deverbal Adjectives in French (and Italian) which are morphologically related to ergative Verbs provides evidence against the strong formulation of the LH given in Chomsky (1967), namely, that morphologically related lexical items should be represented in the lexicon in terms of single, categorially underspecified entries with certain unique θ -marking and selectional properties, as summarised in section 9 above.

However, we do not feel that the evidence presented in this dissertation and, for example, Cinque (1990) undermines the principle of the LH entirely. Rather, we would suggest that it supports Chomsky's (1967) claim that subcategorisation information should be specified *once only* in the lexicon and that it should subsequently be available to *more than one* lexical item. The morphological

processes which have been proposed in the literature and which are summarised in section 11 above clearly derive 'outputs' from 'inputs'. That is to say, the characteristics of derived lexical items are undeniably a function of those of other, non-derived, lexical items. For this to be the case, the features of these non-derived lexical entries must be available to the derived ones. We feel that this can only be adequately captured within the terms of Jackendoff's (1977) 'modification to Chomsky's (1967) proposals. Instead of speaking in terms of unique lexical entries for morphologically related lexical items, Jackendoff (1977) refers to separate lexical entries which are related by lexical redundancy rules.

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