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## Proxy Categories in Phrase Structure Theory

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### 1. Outline of the proposal

The Minimalist Program, as it is defined in Chomsky (1995: chapter 4), is an approach to syntax whose aim is to restrict the theoretical assumptions and formal devices integrated into the model to those which meet general conditions of conceptual naturalness, simplicity, economy, nonredundancy and, in the most favourable situations, are motivated by conceptual necessity. One of the leading ideas of this program is the claim that "derivations [are] driven by morphological properties to which syntactic variation of languages is restricted" (Chomsky (1993: 44)). The approach to phrase structure and movement developed in this work is just one of the possible executions of the intuition that variation should be restricted to elements of morphology.

In the following discussion, we will adopt the main theoretical assumptions which lay the foundations of Chomsky's minimalist model of syntax. They are listed in (1)-(4):

- (1) The interface levels PF and LF are the only linguistically relevant levels of representation.
- (2) Syntactic structures are built derivationally in a bottom-to-top fashion by the operations Select (from the Numeration), Merge and Move.
- (3) Features are the units for which movement and, more generally, syntactic operations are defined.
- (4) Movement
  - (i) is Attraction on the part of a functional target;
  - (ii) is driven by the necessity to check a feature of a F-head;
  - (iii) only occurs if necessary;
  - (iv) satisfies the Minimal Link Condition.

On the other hand, we will argue for two specific proposals, which concern the status of contentless F-categories and the syntactic role of inflectional morphology and represent departures from standard assumptions on these questions. These two revisions have direct implications for the analysis of linguistic variation.

The main innovation of our paper concerns the status of contentless F- categories. Although the existence of intrinsically contentful heads like Tense and Aspect is not open to question, the decision to include Agr in the inventory or to exclude it seems to depend

exclusively on theory-internal reasons. According to Kayne (1994), the reason why there are so many instances of Agr is the paucity of adjunction sites, which itself follows from his restrictive theory of adjunction. Given that double adjunction to the same projection is prohibited, a moved phrase must become the specifier of a head lacking intrinsic content, if no contentful head is available. Agr is just a label for these head positions lacking content. Chomsky (1995) adopts the opposite view and proposes to dispense with Agr entirely, precisely because Agr has no content of its own. Tense (henceforth T) is - along with *v* - the only conceptually necessary F-category in root clauses. However, this radically minimalist proposal does not provide much space for syntactic variation. And it leads to substantial modifications of phrase structure theory; in particular, it forces the recourse to multiple Spec configurations. Speas (1993, 1995) develops a theory of phrase structure in which the projection of syntactic categories is constrained by a Principle of Economy of Projections, which entails that some languages project Agr, others do not. Dealing specifically with Germanic languages, Thrainsson (1996) and Bobaljik (1995) reach a similar conclusion on different grounds.

The primary goal of this paper is to show that this tension between conceptual necessity and descriptive adequacy resolves once it is recognized that some F-categories have a purely derivational definition. These heads, which we will label *proxy categories* or *proxies*, are created in the course of the syntactic computation; they are not included in the initial numeration, since they have no features of their own; their identity is purely morphological, not semantically predictable. This hypothesis will lead to a restrictive theory of phrase structure only if the projection of proxy categories is narrowly constrained. If we follow the minimalist guidelines, we don't want to say that a proxy is created just to make a landing site available for a moved phrase or a moved head.

The second claim of this paper is that the formal features of F-heads can and, if unchecked, must move in overt syntax. This assumption is natural in a feature-driven syntax. No generation is lost if some feature movements, which by definition are abstract movements, are assumed to take place in overt syntax. The categories which host unchecked fissioned features are the heads we call proxies. They exclusively serve to create a new checking domain and to mediate the relation between a word or a phrase and a feature already present in the numeration<sup>1</sup>.

Once the notion of proxy head is introduced into phrase structure theory and the role of feature fission in the licensing of the morpho-syntactic properties of the F-heads internal to phrases and clauses is properly recognized, it is possible to arrive at a highly restrictive theory of categories and movement. It will appear that several categories which had previously received quite diverging characterizations in the literature qualify as proxies in our approach: the initial head in VSO languages, the second position in V-2 languages, the head whose specifier is occupied by the subject in Subject-Adverb-Verb sequences in Western Romance, and of course the category Agrs wherever it occurs. The above list makes it clear that proxies do not constitute an homogeneous set and cannot be subsumed under an all-purpose Agr.

As the preceding discussion has made it clear, we borrow from Chomsky's (1995) system the idea that movement is 'last resort' and is triggered by the necessity to satisfy certain morphological (or categorial) requirements of functional heads. However, we intend to motivate a different conception of the way 'concrete' morphological specifications relate to syntax, which is halfway between Baker's (1988) view that the distribution of affixes in morphologically complex words fully and straightforwardly

<sup>1</sup> This proposal is compatible with the inclusiveness condition (cf. Chomsky (1995: 229)), if features, not categories, are the linguistic objects manipulated by the syntax.

reflects the functional organisation of syntactic trees and Chomsky's view that overt morphology tells us relatively little about syntax. It is summarized in (5)-(6):

- (5) Inflectional (person and finite tense) morphology partially reflects the feature-composition of F-categories.
- (6) The formal features of functional heads can only be satisfied by overt morphology (affix or free morpheme) in overt syntax.

Taken together, (5) and (6) imply that only overt morphological affixes qualify as syntactic affixes, i.e. as affixes endowed with a checking potential, but not all morphological affixes have such a potential. Initial evidence in favour of this claim is provided by the non uniform behaviour of inflected verbal heads across Romance, Germanic and Celtic languages. Note that if inflectional morphology reflects the feature composition of F-categories only partially, morphology-independent strictly syntactic principles will be necessary in order to interpret the morphological information in syntactic terms and to build phrase structure configurations. (6) states that all the movements triggered by the necessity to check features take place in overt syntax<sup>2</sup>. In our view, the idea that morphological checking can be delayed until LF is hard to maintain on conceptual grounds. As a consequence, the crucial parameter is not the divide between strong and weak features, but rather the presence or absence on lexical heads and phrases of the inflectional morphology appropriate to satisfy the relevant feature on a given F-head<sup>3</sup>.

Our assumptions about the relation of morphology to syntax and about the role of feature fission in the edification of phrase structure have direct implications for the analysis of linguistic variation. Chomsky assumes that the significant parametric differences in the constituent word order of finite clauses directly reflect the point in the derivation where the various movements to the functional domain take place, either before or after Spell-Out, a property which is ultimately determined by the strong or weak valency of the formal features associated to the inflectional heads above VP. The movements which have been delayed until LF necessarily take place at this level. In this view, the inventory of the F-heads made available by the numeration and the feature configurations at LF produced by the computational system do not vary across languages. Since all checking relations are established in overt syntax in our approach, the claim that the functional architecture of simple clauses is uniform across languages cannot be maintained, a conclusion which has independently been reached by Demirdash (1989) and Ouhalla (1991). Empirical motivation in favour of the non-uniformity claim is provided by the diverging distribution of adverbial modifiers across different systems. We will argue that languages vary with respect to the type of proxy they project: depending on the fissioned feature they inherit from T, some proxies are D proxies, others are V proxies. At the same time, we will show that the specific properties of each element in the set directly follow from the interaction between the restrictive principles governing the checking of formal features, the morphological characteristics of verbal paradigms in the language and other factors which will be defined in the course of the argumentation. It will appear that languages resort to different morphological resources

<sup>2</sup> The distinction between weak and strong features is thus eliminated. The hypothesis that all the formal features associated to F-heads are checked in overt syntax implies that PF is directly affected by the various movements induced by the checking processes and that no principle gives preference to LF movement over overt movement. In other words, Procrastinate is not part of the constraints governing derivations. This does not mean that LF is a purely interpretive component, nor that it has no syntax at all. It does imply however that if movements occur at this level, they are not driven by the necessity to check formal features.

<sup>3</sup> The letter and the spirit of this proposal are very close from Sola's (1996) approach.

to satisfy the categorial feature of T (the [finite] feature) and that there lies one of the crucial dimensions of linguistic variation. The overall picture which emerges is that feature fission, which directly contributes to the edification of phrase structure and which is sensitive to the available inflectional resources in each system, is one of the key-factors governing word order variations across languages.

## 2. Two linguistic puzzles

In this section, we consider two apparently unrelated linguistic puzzles which, it seems to us, have not up to now received satisfactory analyses.

### 2.1. Adverbial distributions

The first concerns adverbial distributions in languages illustrating different linguistic types. These distributions raise non trivial difficulties against the hypothesis of a uniform clausal architecture and suggest that contentless F-heads instantiate several types and cannot be reduced to an all purpose Agr.

Consider the clausal schema proposed by Chomsky (1991, 1993):

#### (7) Agrs- T- Agro - V

Suppose we adopt Chomsky's (1993) proposal that both Agrs and T have a V-feature, which can be either strong or weak. If a strong V-feature forces verb raising in overt syntax, the finite verb must raise to T if T has a strong V-feature, it must raise to Agrs if Agrs has a strong V-feature. The question that immediately arises, however, is whether the value of the feature of T and the value of the feature of Agrs are fixed independently and, if so, which are the respective triggers of each value. In particular, has T a strong or a weak V-feature or no feature at all in languages in which V systematically raises to Agrs?

Moreover, there are situations where the Agr analysis does not seem appropriate, at least under the assumption that an AgrP projection is, by definition, the locus of a Spec-Head relation.

#### 2.1.1. Celtic VERB-SUBJ order.

The standard analysis of the VSO order in Celtic illustrated in (8) is that the specifier of the initial category hosting the verb is not a checking position at Spell-Out.

- (8) a. Darllenodd y dyn y llyfr [Welsh]  
 read-3Sg the man the book  
 b. Darllenodd y dynion y llyfr  
 read-3Sg the men the book  
 c. Darllenasant (hwy) y llyfr  
 read-3Pl (they) the book

If the functional architecture of clauses is taken to be (7) universally, then the higher inflectional head in Welsh must be identified with Agrs. This conclusion is not compatible with a more restrictive characterization of Agr, according to which this category is inherently endowed with strong D- and V-features. Under this stricter characterization, the occurrence of Agr is limited to the situations in which DP-raising is contingent on V-raising (or, more generally, on head raising). Note that it is also doubtful that the postverbal subject raise to the higher specifier at LF: the analytic form

of the verb which is used with both singular and plural DPs is not specified for number (cf. 8a, 8b).

The distribution of adverbs also raise a potential difficulty for the uniformity claim. The Welsh examples in (9) show that no adverb can intervene between the initial verb and the subject. In the VSO order, no adverb can intervene between the subject and the object either.

- (9) a. \*Darllenodd neithiwr y dynion y llyfr  
       read last night the men the book  
       b. \*Darllenodd y dynion neithiwr y llyfr  
       c. Darllenodd y dynion y llyfr neithiwr

By itself, the Agrs-T-Agro analysis sheds no light on this restriction. To account for (9a), it could be suggested that no adverb may be inserted at the TP-level. Romance languages, however, show that this restriction cannot be maintained in full generality.

#### 2.1.2. Portuguese SUBJ-ADV-VERB order.

Adverbial distributions in European Portuguese, Spanish and Catalan confirm that there is no general ban on the adjunction of adverbs to TP or, alternatively, on their insertion into SpecTP. The Portuguese paradigm in (10) shows that adverbs belonging to different classes may intervene between the initial subject and the inflected verb.

- (10) a. A Maria cuidadosamente fechou as janelas  
        Maria carefully closed the windows  
       b. O João provavelmente resolveu esse problema ao mesmo  
        tempo  
        João probably solved this problem at the same time  
       c. O Paulo ontem discutiu com a mãe  
        Paulo yesterday argued with the mother  
       d. Os rapazes quase viram o gato  
        the boys hardly saw the cat

As the examples given in (10) illustrate, the occurrence in this position does not isolate a natural homogeneous class: can precede the verb adverbs belonging to Jackendoff's class I (*cuidadosamente*), class III (*provavelmente*), class VI (*quase*), as well as temporal and aspectual adverbs (*ontem*). (11) shows that not all adverbs can precede the verb: Jackendoff's class II (*rapidamente*) and class V (*bem*) obligatorily follow it. (12) shows that some adverbs, which are legitimate in preverbal position, are excluded from the postverbal one:

- (11) a. Os rapazes (\*bem) leram (bem) o livro  
        the boys (well) read (well) the book  
       b. Rui (\*vivamente) agarrou (vivamente) o braço do irmão  
        Rui (brusquely) seized (brusquely) the arm of -the brother  
       (12) a. \*Os rapazes viram quase o gato  
        The boys saw hardly the cat  
       b. ? O João resolveu provavelmente o problema ao mesmo tempo  
        João solved probably the problem at the same time

The distributional restrictions illustrated above can be taken to show that tensed verbs move higher in European Portuguese than in English, since class I adverbs can (cf. 11b), and some manner adverbs must (cf. 11b), follow the verb. On the other hand, the fact

that some adverbs obligatorily precede the verb (cf. 10b/12b, 10d/12a) suggests that European Portuguese distinguishes itself from French in that tensed verbs do not reach the higher functional head in the clause: they adjoin to T and do not move further. This in turn leads to the conclusion that the initial subject and the verb do not stand in a Spec-Head relation at Spell-Out, a conclusion independently reached by Galves (1990), Figueiredo Silva (1994), and Costa (1996). Adverbial distributions thus provide strong motivation in favour of generalizations (13) and (14).

- (13) In E.P. declarative affirmative root clauses and embedded tensed clauses, the finite verb does not raise higher than T.  
 (14) In E.P. finite clauses, the subject and the finite verb do not stand in a Spec-head relation.

An additional observation due to Costa (1996) is that, in Portuguese at least - Italian and Catalan have a different behaviour, cf. Belletti (1990) and Bonet (1990) -, adverbs are legitimate in preverbal position, not only with referential subjects, but also with quantified, hence not topicalizable, subjects:

- (15) Todos provavelmente errarão  
 All probably will fail

This fact, it seems to us, strongly argues against the analysis of Subject-Adverb-Verb sequences in Romance as clitic-left-dislocated structures, proposed by Barbosa (1994) and adopted by Alexiadou & Anagnostopoulou (1996). Although the subject does not stand in a Spec-Head relation with the verb, it is realized in a position internal to the inflectional domain of the clause, i.e. it occupies the specifier of a F-category higher than T. Labelling this category Agrs sheds no light on the phenomenon and, in particular, does not explain why the same option does not exist in French.

The upshot of these observations is the following: adverbial distributions strongly suggest that clausal architecture is not uniform across languages. We need a theory of F-categories and movement which not only assigns a different status to the Celtic highest inflectional head and to the Romance one, but is also able to correlate this status to the adverbial distributions in each system.

## 2.2. Second puzzle : verb movement and verbal morphology

The second puzzle pertains to the role of inflectional richness in verb movement. A general question which recent research has made accessible is: to what extent can the morphological properties of complex words be said to reflect or even determine their syntactic behaviour? In Baker's (1988) conception and in the approaches making use of the *Stray Affix Filter*, the make-up of morphologically complex words reflects syntactic derivations. In Chomsky's strong lexicalist view, overt movement of heads and phrases is driven by the need to check the strong features associated to F-heads. But no effort is made to correlate the strong valency of the triggering features to some observable (interface) morphological property, in particular to the richness of inflectional paradigms.

Let us suppose that the richness of inflection is responsible for the movement of finite verbs. Is it possible to replace this vague intuition by a more specific hypothesis? Rohrbacher (1994) claims that the crucial dimension for V to T movement is the presence and the nature of the person specification on finite verbal forms. In null subject Romance languages, person is represented by a distinctive mark on each form of the verbal paradigm (cf. Rohrbacher's notion of Full Paradigm). Finite verbs raise to T. In English, where personal morphology is 'uniformly' lacking - we follow Kayne (1989,

1994), in taking *-s* to be an instance of number agreement only, finite verbs do not leave their original VP.

- (16) a. Maria parlava sempre di lui  
b. Mary often talked about him

However, the overall picture appears to be much more complex when Germanic languages (other than English) are taken into account. In root contexts, finite verbs move to the second position in the clause. Whatever the target of this root movement turns out to be, the uniform syntactic behaviour of finite verbs across languages with different inflectional properties tells us that the trigger cannot be located in personal morphology. Compare Icelandic, which is richly inflected, with Danish, which shows no personal morphology on verbal forms:

- (17) a. Helgi hefur oft lesið þessa bók [Icelandic]  
b. \*Helgi oft hefur lesið þessa bók  
Helgi (often) has (often) read this book  
(18) a. Marie ryger ofte disse cigarer [Danish]  
b. \*Marie ofte ryger disse cigarer  
Marie (often) smokes (often) these cigars

V-2 is also independent of head-directionality, as shown by the similar behaviour of German - which is OV:

- (19) a. Die Kinder haben diesen Film gesehen [German]  
the children have this film seen  
b. Diesen Film haben die Kinder gesehen  
this film have the children seen

The relevant dimension in root contexts seems to be simply the finiteness of the verb, a conclusion further corroborated by the acquisition data from German presented by Poeppel and Wexler (1993).

In embedded clauses, verb movement is not tied up with person morphology either, as the comparison between Icelandic and German, which are both richly inflected, shows:

- (20) a.  $da \leftarrow \text{var } \text{ov} \mid \text{nt}, a \leftarrow \text{þessa bók skydi Helgi oft hafa lesið}$   
it was unexpected that this book should Helgi have read  
b.  $da \leftarrow \text{var } \text{ov} \mid \text{nt}, a \leftarrow \text{Helgi skydi oft hafa lesið þessa bók}$  [Icelandic]  
it was unexpected that Helgi should often have read this book  
c.  $*da \leftarrow \text{var } \text{ov} \mid \text{nt}, a \leftarrow \text{Helgi oft skydi hafa lesið þessa bók}$   
it was unexpected that Helgi often should have read this book  
(21) Er sagt, daß die Kinder diesen Film gesehen haben [German]  
he says that the children this film seen have

The Icelandic data indicate that the inflected verb is allowed to leave its original VP, giving rise to an embedded verb second configuration. But, neither in Continental West Germanic OV languages (German, Frisian), which are inflected for person, nor in Mainland Scandinavian languages (Swedish, Danish, Norwegian), where person morphology is lacking completely, is there any sign that finite verbs leave the VP. Compare (22) with (21):



- (22) a. \*De cigarer som Marie ryger ofte er dyre [Danish]  
           the cigars that Marie smokes often are expensive  
       b. De cigarer som Marie ofte ryger er dyre  
           the cigars that Marie often smokes (often) are expensive

This statement, of course, presupposes a certain view of the clausal architecture of OV languages. Here, we adopt Kayne's (1994) generalized Spec-Head-Complement structure which precludes the existence of right-headed languages and thus excludes the possibility of a rightward V-movement to a clause-final T in embedded contexts in OV languages. Reuland (1990) provides independent arguments showing that, in Dutch at least, the inflected verb does not move to a clause-final I position<sup>4</sup>.

This shows that the presence of personal morphology on the verb is not - in Chomsky's terms - a sure indicator of a strong V-feature for T, nor its absence a sure indicator of a weak V-feature. Morphological richness and syntactic strength do not always coincide. This difficulty is not specific to the strong lexicalist position adopted by Chomsky. In grammatical frameworks in which affixes are syntactic heads, inserted into functional categories and subject to the Stray Affix Filter, such as Baker's (1988), we would be forced to assume that the notions of syntactic affix and morphological affix do not necessarily coincide (on this point, see Bobaljik (1995)).

Note that the root/embedded asymmetry in Germanic can be naturally accommodated within the restrictive conception of Move F as attraction on the part of the target of the process, incorporated into the Minimalist Program (cf. (4)). It predicts that the head feature of a F-category, whether T or another head, can be satisfied by moving an inflected head or by merging an element with the required checking potential, in which case movement of any other element is superfluous, hence excluded. It thus potentially accounts for the fact that the same forms - Germanic finite verbs - must move in root contexts and are prevented to do so in embedded ones. What remains to be explained is the parallel syntactic behaviour of morphologically dissimilar verbal forms.

In what follows, we intend to show that a minimalist theory of categories and movement incorporating the assumptions developed in section 1 is able to solve these two puzzles.

### 3. On the features of Tense

In the following discussion, we refer under the label T to whatever category makes a proposition finite (maybe, finite Infl would be a more appropriate designation). We adopt Chomsky's (1995) radically minimalist claim that T is, with v, the only conceptually necessary F-category in clausal domains. At the same time, we try to justify a different proposal concerning the feature composition of this category.

#### 3.1. The D feature of T

Following the minimalist guidelines, we claim that overt movement of heads and phrases is driven by the necessity to check features. But within our approach, checking is

<sup>4</sup> Rohrbacher (1994) bases his analysis exclusively on Germanic VO languages and does not consider Dutch or German, because, he argues, V to I would have no visible effects. This view is challenged by Reuland's data.

not uniformly triggered by morphological dimensions<sup>5</sup>. In our view, which matches that of Vergnaud (1987), phrase structure at Spell-Out is the means by which the grammar realizes or materializes scope relations. The nominal arguments of verbal predicates raise in order to take their respective scopes and to satisfy the scopal requirements of contentful functional heads, such as Tense and Aspect. In particular, every finite clause contains a F-category T which requires that at least one argument (normally, the one generated in the closest position from T) leave its original position within VP. Not only is this 'externality' condition not based on morphological considerations, but it also holds universally at Spell-Out. Using the available terminology, we will say that T is universally endowed with a D-feature which must be checked prior to LF by an argument with the matching scopal features. In other words, we disallow language-parametrization into weak D-feature and strong D-feature languages.

What happens in languages where there are strong empirical reasons to claim that the subject argument can optionally remain in situ?

- (23) Ha telefonato Gianni? [Italian]  
has telephoned Gianni

Our position is that, in these cases, the D-feature of T is exceptionally satisfied by the pronominal/argumental property of the verbal inflection. For such constructions to be possible, two conditions at least must be met: (i) verb movement must precede argument movement; (ii) the D-feature of the relevant subject must be neutralized by an optional Focus feature. In other words, although T requires an argument to take scope, no such argument, with matching scopal properties, is available. As the Focus feature is an optional feature, its satisfaction is contingent on (overranked by) the satisfaction of the formal (obligatory) D-feature and categorial feature of T.

### 3.2. *The categorial feature of T*

T is also endowed with a categorial feature (under the trivial assumption that every category included in the numeration, whether lexical or functional, bears a categorial label). Whereas the four major lexical categories can be defined by a combination of the two features aN and bV, corresponding respectively to the notions 'substantive' and 'predicative', which feature make-up should be associated to T and other F-heads is unclear. The issue is how to interpret or identify a categorial label like [T] or [D]. One possibility is to divorce the feature compositions of L- and F-categories completely and to take their feature contents to constitute strictly disjoint classes. Another hypothesis consists in assuming that F-categories can be characterized by the same features that cross-classify L-categories, i.e. aN, bV. This claim was much favoured in the 80's because of the options it offered for parametric variation. For example, it has been suggested that the empty subject in pro-drop languages is licensed by a nominal Infl (which, at the time, also served as a proper governor), while in non-pro-drop languages, Infl is taken to be non-nominal (cf. Rizzi (1982), among others). Implicit in this approach is the idea that there is a major difference between L- and F-categories: whereas there is a "perfect" universally determined correlation between the categorial feature of a L-category and its lexical content (for example, a noun is universally [+N, -V]), the same doesn't hold for functional categories.

In what follows, we will assume that the categorial feature of T may vary from language to language. More precisely, finite T has a single categorial feature - [finite] - which can be either [+ V] (= predicative) or [+ N] (= argumental). We will also claim

<sup>5</sup> Chomsky (1995) himself admits that overt movement is not always morphology-driven; in particular, it is not clear whether his formal EPP-feature has any morphological correlate.

that, by definition, the categorial features associated to F-heads must be identified. For the identification to be felicitous, a head with the required property must be adjoined to T. This can be done in one of two ways: either by merging lexical material (material with phonetic content) at the TP-level or by moving such material from below and adjoining it to T. If movement is involved, the categorial feature of T will attract the closest category in its c-commanding domain carrying the matching categorial properties. In general, this category is the one that satisfies the c-selection of T.

If the categorial feature of finite T is [+ N], it can only be identified by a verbal form whose inflection is prominently personal inflection. If the categorial feature of T is [+ V], it can only be identified by a verbal form whose inflected part primarily carries temporal morphology. In other words, a finite form bearing an inflection consisting of personal suffixes - whose shape may also show sensitivity to tense/aspect variations - can identify a [+ N] categorial feature; a verbal form which either carries a distinct tense morpheme, clearly dissociated from (optionally instantiated) person morphology, or whose stem is lexically amalgamated with temporal specification (= root suppletion in certain tenses) can identify a [+ V] categorial feature.

It should be emphasized that this approach makes the process of categorial identification of F-categories very similar to lexical insertion: in order to be interpreted (identified), any category must have an appropriate phonological matrix adjoined to it at some level of representation <sup>6</sup>.

The notion of categorial feature identification also provides a new way to look at the link between morphology and syntax. Optimally, a scan of verbal paradigms in a given language should indicate whether the categorial feature of T can be satisfied by a nominal or a verbal element. Contrary to Holmberg & Platzack (1995) and contrary to Rohrbacher (1994), we do not claim that the presence of *personal* morphology is a sure indicator of syntactic verb movement. In our view, *any* inflectional morphology present on the verb may indicate verb movement. In the absence of distinct temporal morphemes, person morphology plays a crucial role in triggering movement, as is the case in Romance. But if the inflected forms in a verbal paradigm display distinct finite morphology, it is this latter dimension that triggers movement, and not the additional presence of person morphology on the same forms, as the Germanic paradigm shows. Thus, the parametrisation lies in the nominal vs. verbal status of the categorial feature of T, not in the presence/absence of personal morphology on the verb.

#### 4. The Proxy Theory of Phrase Structure

##### 4.1. The nature of formal features

One of the fundamental assumptions of the Minimalist Program is that syntactic movement is a last resort operation, triggered by the necessity to satisfy features which encode morphological (or categorial) requirements of their host heads. Checking is an operation that must exclusively benefit to the target, not to the moved element <sup>7</sup>.

Our approach integrates these two assumptions. But it differs from the minimalist conception in crucial respects. Chomsky maintains the idea that both the functional target and the moved item are endowed with formal features. A F-head endowed with a formal feature triggers the movement of the matching feature from the

<sup>6</sup> In a similar manner, the principle of *late lexical insertion* of Distributed Morphology lexicalizes syntactic features.

<sup>7</sup> This restrictive conception of Move F as attraction on the part of the target is in sharp contrast with an earlier assumption, formalized as the *Greedy Principle*, according to which movement and checking had to benefit to the moved item.

lexical entity; it does not directly attract the whole constituent. If the attracting feature is strong and thus triggers overt feature movement, the attracted feature carries along the whole lexical category, in order to yield a morphologically legitimate output at Spell-Out and at PF. Note that, whereas both the target and the moved category are endowed with formal features, only the features of the former are parametrized into weak and strong (it would be meaningless to propose that the features of F-heads are weak and the features of lexical elements are strong).

In our approach, only F-categories are endowed with formal features. L-categories, which are endowed with intrinsically lexical features, also bear morphological/inflectional specifications which are able to identify and interpret the formal features of F-heads. Let us make explicit the reason why we don't characterize these morphological specifications as formal features. Chomsky's conception of checking crucially relies on the idea that convergent derivations involve the elimination of checked features by deletion or erasure. Clearly, this notion of elimination is not applicable to morphological specifications<sup>8</sup>. A strong feature cannot correspond to a strong or visible morpheme. This is why, instead of claiming that morphological affixes are the realization of formal features of lexical categories, we assume that formal features (in fact, the formal features of F-heads) can and must be identified by morphological affixes<sup>9</sup>.

#### 4.2. Fission

Now that the nature and the source of formal features has been clarified, we are in a position to introduce one of crucial assumptions of the Proxy Theory of Phrase Structure, namely that formal features may and, under certain conditions, must move. As should be clear by now, this movement is quite independent from Chomsky's Move F. Since only F-heads are endowed with formal features, feature-movement can only take place from a F-category. Why should a formal feature move? This movement is imposed by the very strict condition which, in our approach, governs checking processes. It is stated in (24):

(24) *Single Checking Hypothesis (SCH)*

A functional head F can only be involved in a single checking relation in its checking domain FP.

Our approach, contrary to Chomsky's (1993, 1995), does not require that both the head-feature and the projection-feature of a F-category be locally checked by adjoined lexical material inside its minimal projection. In fact, the SCH prohibits such a double checking. This principle intuitively stems from a bijective conception of syntactic relations and operations (cf. Vergnaud (1985), Tuller (1986) on Case relations, Baker (1988) on Theta-assignment). Combined with the requirement that all formal features be checked in overt syntax and with the hypothesis that finite T is endowed with two such features, a D-feature and a categorial feature, it implies that one of these features cannot be checked at the TP-level. The derivation of a finite clause can only be redeemed, we suggest, if the unchecked feature moves from T onto another category, in order to find itself in a configuration which allows it to be checked. We will label this movement feature fission.

<sup>8</sup> It is not applicable to the quantificational features, like [Neg], [Focus], [wh], which have an interpretive import, either.

<sup>9</sup> Of course, we don't exclude the possibility that this identification result in the deletion or the erasure of the formal feature, if the concept of feature elimination turns out to be necessary.

(25) *Feature fission*

If a formal feature  $\beta$  of a head  $F$  has not been checked at the FP-level, the fission of  $\beta$  must take place in overt syntax in order to create a new checking relation.

## 4.3. Proxy categories

The next question to be addressed is: where does a fissioned feature move? We know that, as a result of movement, it should find itself in a syntactic configuration which permits its checking. Our claim is that this condition can be satisfied by a  $F$ -head which has no features of its own and which is created in the course of the syntactic derivation precisely to host the fissioned feature. We call proxy categories these contentless  $F$ -heads which are not present in the numeration and have a purely derivational definition and origin.

(26) *Proxy category*

A proxy category is a  $F$ -head created in the course of the syntactic computation in order to host a fissioned feature.

The projection of a proxy category is just one of the two strategies that allow the checking of a fissioned feature. The unchecked feature may also be copied onto a superordinate functional head, if the numeration makes one available. This option will give rise to a converging derivation only if the fissioned feature has the same specification as the categorial feature of the superordinate head and can fusion with it (if the two features counted as distinct, the SCH would be violated). When feature fusion is involved, whatever lexical content identifies the categorial feature of the superordinate head will also serve to identify the fissioned feature. As we shall see below, feature fusion occurs in Germanic between the fissioned categorial feature of  $T$  and the categorial feature of  $C$ .

At this point, it may be useful to stress the similarities and the differences between  $Agr$ , as it is usually conceived, and our notion of proxy category. Both are contentless  $F$ -categories, inheriting features from a contentful head. The primary function of  $Agr$  is to provide a structural configuration in which features can be checked. Following Koizumi (1995), we can think of  $Agr$  as a category inheriting its features both from the adjoined head and from the phrase in its specifier. The derivation converges only if the inherited head features and the inherited phrase features coincide. In this view, it is unclear why some features, for example the Case features of  $T$ , cannot be checked within the  $T$  domain and have to be brought up to  $Agr$ s. Notice that we cannot appeal to the idea that checking is dependent on chain formation to motivate this movement. Since both domains, the  $TP$  domain and the  $Agr$ sP domain, are distinct from  $VP$ , checking in either of them would force the raising of the subject. In our approach, proxies are necessary because they share the checking work with contentful  $F$ -heads and carry out what contentful heads have not accomplished. Crucially, the feature make-up of contentful heads varies across languages. As a result, the identity of the fissioned feature also varies, as well as the identity of the proxy created to host this feature. This means that there are several types of proxies, triggering different syntactic operations.  $Agr$ P, on the contrary, is always the locus of a Spec-Head relation, minimally involving  $\phi$ -features. We hope to have shown in section 2.1. that the  $Agr$  view of contentless categories is not in the best position to account for linguistic variation in a principled way.

#### 4.4. Algorithm of feature identification

Given that, in the general case, a F-head is endowed with two features, it still must be determined which one is checked first (in situ) and which one must fission. Here, we propose an algorithm based on a universal hierarchy of feature identification. Two dimensions are involved in this hierarchy: (i) the verbal vs. nominal specification of formal features, and (ii) the X-bar status of the identifying (moved) constituent:

- (27) Given two features  $\alpha$  and  $\beta$  associated to some functional head,  
 $\alpha$  is checked before  $\beta$  if
- (i)  $\alpha$  is nominal and  $\beta$  verbal, OR
  - (ii)  $\alpha$  and  $\beta$  are both nominal and  $\alpha$  can be satisfied by a head.

The idea underlying (27i) is that the features associated to argumenthood (nominal features) are checked before the features associated to finiteness or to the temporal operator dimension. This condition is close in spirit to the A/A' distinction (movement to A-positions precedes movement to A'-positions). The second clause of (27) can be motivated by locality considerations.

#### 5. Basic word orders

One of the basic claims made by our approach is that languages differ as to the way the [finite] categorial feature of finite T is identified and that this dimension of variation constitutes an autonomous parameter. We want to show that, when combined with the Proxy Theory of Phrase Structure, the value of this parameter in each language determines the syntactic behaviour of (finite) verbal heads and also, the categorial architecture of the clause.

Which options are available for the identification of [finite]? Although many more systems should be considered, we will restrict our attention to Romance vs. Germanic vs. Celtic languages. Within this restricted sample, the fundamental distinction seems to be between languages which resort to the personal morphology on verbal forms and languages that do not. Null subject Romance languages belong to the first group. The adjunction of a personal affix to T - via the adjunction of an inflected verbal form to T - suffices to make the [finite] feature visible. This identification strategy can be put to use only in languages in which a rich personal morphology is present on all the finite forms of verbal paradigms. But not all languages which have such a morphology at their disposal take advantage of it in the identification of [finite], as Continental West Germanic languages show. We suggest that in Germanic languages (others than English) and also in Celtic languages, the identification of a clause as finite is performed by the adjunction of a head specified [+V] to the X category bearing the [finite] feature. We thus end up with the following (partial) typology:

- (28) Identification of [finite]
- |      |                   |                                   |
|------|-------------------|-----------------------------------|
| (i)  | person morphology | Null subject Romance languages    |
| (ii) | [+V] head         | Germanic (except English), Celtic |

Let us now show that the Proxy Theory of Phrase Structure, combined with (28), is able to derive the basic word-order properties of the languages considered so far.

## 5.1. Romance languages

If person morphology is involved in the identification of [+ Finite], the two features of T are nominal (the D-feature is nominal by definition). (27ii) implies that [finite] = [+ person] is satisfied first, i.e. locally. The finite verb bearing the person morpheme is attracted to T. Given the SCH, the D-feature cannot be satisfied in situ. It fissions and is copied onto a proxy D head, the specifier of which is targeted by the subject argument. The resulting configuration is a SVO order with an 'externalized' subject, which does not stand in a Spec-Head relation with the inflected verb. This is the situation in European Portuguese. Note that nothing prevents an adverb - which by definition has no argumental properties - from being inserted into SpecTP - which is not a checking position in this case.

## 5.2. Celtic languages

If the designated identifier of [finite] is a [+ V] head, one feature of T is nominal, the other verbal. Clause (i) of (27) implies that the feature which is checked locally is the D-feature. SpecTP is targeted by the subject. The [finite] = [+ V] feature, which is not satisfied at the TP-level, undergoes fission and is copied onto a proxy V head, created immediately above T, which in turn attracts the verb. This derivation yields the VSO order. No adverb can be inserted into SpecTP, which, in this configuration, is the designated checking position of the D-feature.

## 5.3. Germanic languages

Suppose that in Germanic, as in Celtic, the categorial feature of T is [+ V]. (27i) implies that D is satisfied locally and SpecTP is targeted by the subject. [finite] undergoes fission and is copied onto a proxy V head, which attracts the finite verb. The resulting configuration is a VSO order. The question is: which property distinguishes Germanic from Celtic? Our proposal is that in Germanic, the categorial feature of T is not defined simply as [+ V] (which is the unmarked option), but also as Illocutionary Force or Affirmation. We thus depart from the standard analysis of the verb second phenomenology, which takes the positive valency for these properties to be a characteristic of C. In our approach, the feature corresponding to Illocutionary Force is a property of T<sup>10</sup>.

In root clauses, the finite verb attracted by the proxy V head marks off the Rheme of the sentence and some XP must occupy the proxy Spec in order to function as the Theme (Topic) or Subject of Predication, in conformity with semantic/pragmatic criteria<sup>11</sup>.

In embedded clauses, a superordinate head C is included in the numeration. The fissioned categorial feature can be either copied onto a proxy V head (yielding embedded V-2 configurations) or merged with the categorial feature of C, with which it shares properties in Germanic. The latter operation suffices to identify the fissioned categorial feature, since C is lexicalized, i.e. made visible at the interface levels. Note that we correctly predict that this option is available only in languages in which the [finite] feature is not checked in situ (in which [finite] is [+ V]). In Romance languages, [finite] is

<sup>10</sup> S is thus a projection of T in all languages, since a proxy head can be viewed as a copy of the category originally endowed with the fissioned feature. We do not say that S is a projection of Agrs in Romance languages (and in English) and a projection of V or T in Germanic, as has been sometimes proposed.

<sup>11</sup> Note that the requirement that the proxy Spec be filled is not feature-driven and is less strict than the requirement to front the verb.

necessarily satisfied at the TP-level: it never fissions onto a proxy head, nor onto a superordinate category.

#### 5.4. French

French differs from null subject Romance languages in that it absolutely prohibits the interpolation of an adverb between the initial subject and the inflected verb, a fact which suggests that they stand in a Spec-Head relation at Spell-Out:

(29) \*Marie souvent parlait de lui

Suppose that, as far as the features of T are concerned, French does not differ from other Romance languages: its categorial feature is [+ N]. This means that [finite] is satisfied first and that the verb carrying the person affix is attracted to T. D fissions and is copied onto a proxy D head, the specifier of which is targeted by the subject. However, French differs from its neighbours in that person is not distinctively marked on each form of the verbal paradigm. 1st, 2nd and 3rd persons are morphologically distinguished only in the plural, which suggests that, in this language, number is what makes person visible.

We will interpret these characteristics in the following way. Person morphology is not rich enough to identify the nominal categorial feature of T, since it is not distinctively marked on each form of the paradigm. Number has this capacity. However, it is an intrinsically relational property, shared by nouns and verbs, which is not represented by an autonomous F-category and which can only be satisfied through Spec-Head agreement. The categorial feature fissions from T and is copied onto the proxy D created to satisfy the D-feature of T. The verb is carried along with the categorial feature and adjoins to the proxy head.

#### 5.5. English

Can our theory of categories and movement be reconciled with the facts of English? The relevant examples are given in (30)-(32):

- (30) John often read that book  
 (31) a. John probably has made several mistakes  
       b. John has not often looked at that book  
 (32) a. John did not read that book  
       b. Which book did John read?

The first challenge is to explain how a simple declarative clause like (30) is identified as finite. We know that in this construction, the verbal form functioning as a finite form does not raise to the inflectional domain. If T is endowed with a categorial feature [finite], how is this feature satisfied?

The second challenge is to account for the distribution of the inflected auxiliaries *have* and *be*. We know that these forms raise to T and even occur in configurations which are similar, in some respects, to the ones found in null subject Romance languages - (a) shows that an adverb may intervene between the initial subject and the auxiliary. This situation is paradoxical, since finite auxiliaries are in no way more richly inflected than ordinary finite forms: personal morphology is lacking entirely and number alternations do not enter into a canonical paradigmatic contrast. If one interprets these distributions within our framework of assumptions, we have to conclude that auxiliary movement in English is not motivated by the necessity to identify a [+ N] [finite] feature. It cannot be triggered by the satisfaction of a [+ V] [finite] feature either, since, if it were the case, a V



+ SUBJ configuration would be expected to occur. The third challenge is how to deal with do-support, which is found in negative sentences and matrix questions (cf. (32)).

The first step towards a principled analysis of the English paradigm is to clarify the status of the [finite] feature. We will tentatively assume that it is neither [+ V], nor [+ N]. The second step is to embed this claim within an articulated clausal structure, i.e. make explicit the functional organization of the clause below the TP-level. Here, we will adopt the categorial schema (33) proposed by Chomsky (1995) and assume that T is endowed with a [finite] feature and v with a feature we will label [f]:

(33) T - v - V

Universally, the ([f] feature of the) category v in (33) is not tied up with any inflectional - personal, temporal - dimension. Now, the distinctive characteristic of English T is precisely that its categorial [finite] feature is not specified as [person] or [tense] either. This means that in English, the feature make-up of T and v are non-distinct. Our proposal is that the grammar of English exploits this similarity. In simple clauses like (30), the feature [f] associated to v fissions onto T and fusions with the [finite] feature. This merger, we claim, suffices to identify [finite] in a language in which the verbal forms functioning as finite forms are either bare or grossly similar to participles (cf. Sola (1996)).

To account for the phenomenon of do-support, we will adopt an analytic proposal made by Watanabe (1993), according to which the clauses which host NegP must contain the feature [+ modal]. We are not in a position to decide whether the [+ modal] feature heads a projection whose specifier hosts the negative element or whether the negative element itself, endowed with this feature, heads the NegP projection. Whatever the correct option, the presence of this additional feature, intervening between T et v, modifies the options available for the identification of the features of T and v in the representation (34).

(34) T - Neg - v - V  
[finite] [+ modal] [f]

The [f] feature of v is satisfied via fission onto the Neg head bearing the [+ modal] feature. This leaves the [finite] feature on T unsatisfied. The merger of do directly onto T is required precisely to identify this feature.

As for the sentences containing an auxiliary, it is safe to assume that their functional structure is more complex than that of simple sentences and, in particular, involves an additional head Aspect. Whether Asp is projected above v or intervenes between v and V, we will leave open. In the first case, the fission of [f] onto Asp satisfies the categorial feature of v. In the second case, [f] is satisfied via raising of the aspectual features to v. In both cases, the direct merger of an auxiliary onto T is necessary to identify [finite].

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