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Allomorphy and morphosyntax in Irish prepositional inflection

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1. Introduction

In natural language, form types of some kind *realize*, or make physically perceptible, meaning types of some kind. Among the countless factors that complicate this simple picture there is the disturbing tendency of languages to key the choice of different linguistic forms to some "meaning" these forms do not, strictly speaking, realize. To take a common example, the plural of the German noun *Land* 'country' involves both addition of the suffix *-er* and modification (fronting and raising) of the root vocalic nucleus: *Länder*. The category [plural] has thus two distinct forms of exponence. Each of them is the single expression of [plural] elsewhere in the system of German nouns, so that it is not obvious whether either "realizes" [plural] in any meaningful sense here. Indeed, many leading morphologists (Matthews 1972, Anderson 1992, and in general proponents of word-and-paradigm approaches) have taken the profound irregularity of the sound-meaning mapping among word-internal constituents as one reason to abandon altogether the notion of "morpheme", which in structuralist terms defines the atomic map of sound and meaning. For others, it still makes sense to speak of subcomponents of words as elements that realize meaning (perhaps not in terms of atomic signs), but on condition of distinguishing primary from secondary exponence (Carstairs 1987). On this view, it is still true that formatives realize features (primary exponence), but the resulting form may be dependent on the presence of some other feature (secondary exponence). Following this approach, Noyer (1997:liii-lxii) proposes that the feature [plural] in forms like *Länder* is realized by the suffix but conditions allomorphy on the stem. The analysis is

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given explanatory power (i.e. takes risks) by his contention that allomorphy rules are structure-changing, while all structure-building rules (i.e., those creating affixes) "discharge" a feature. Primary exponence, for Noyer (following Halle 1992), is the realization or discharging of a featural content, which cannot subsequently trigger further affixation; but a discharged feature, on a par with a feature that is inherent to the stem, can still condition allomorphy.

The following pages will argue that a view of allomorphy along these lines provides an unexpectedly insightful solution to a morphological puzzle concerning prepositional inflection in Irish. This puzzle would have no particular theoretical interest if the proposed solution did not have far-reaching implications for the study of syntax and morphology as interdependent components in the grammar. Section 2 summarizes the relevant facts about Irish prepositional inflection and describes the anomalous pattern I will call "parasitic inflection", in synchronic as well as diachronic perspective. Section 3 contains a preliminary morphological formalization which brings out the need for a global reconsideration of agreement and inflection. Section 4 outlines a specific view of the relation between morphology and syntax, whose application to Irish leads to the claim that verbal / prepositional conjugation in this language includes no Agreement head. On these theoretical bases, section 5 offers a detailed morphological analysis of prepositional inflection. As shown in section 6, the notions of feature discharge and conditioned allomorphy provide a unified explanation not only for parasitic inflection, but for a wider range of facts about Irish conjugation than has been discussed so far. Section 7 briefly recapitulates the empirical and theoretical results.

2. Prepositional Inflection in Irish

2.1. Irish prepositions inflect (almost) like verbs do, except that they have no tense or finiteness category. They share with verbs the fundamental trait that sets apart the Irish conjugation system from systems of other European languages: in simple, descriptive terms, there is no agreement. An inflected form of X will express some combination of pronominal features, but this combination is never doubled on the DP with which X is supposed to "agree". There is instead exactly one expression of pronominal features: either on DP or on the inflected X, depending on whether the

former is a simple personal pronoun. This pattern is exemplified in for prepositions in (1) by *do* 'to, for'; the first column has inflected forms, the second the base, uninflected one:

(1)	a	dom DO.1.sg 'to me'	b	* do mé DO me 'to me'
	c	di DO.3.sg.f 'to her'	d	*do í DO her 'to her'
	e	*di Nuala DO.3.sg.f N. 'to Nuala'	f	do Nuala DO N. 'to Nuala'

The complement DP is a simple pronoun in the first two rows: in this case, the inflected P must be used, and it must be used alone (we may say that the DP is still present, but as *pro*; see below). Note that the corresponding realized pronouns do exist; they are just impossible in this context. For the third person, instead of a pronoun there may be a full DP. In this case, as shown in the third row, the preposition cannot inflect.

The same holds for verbs, although here the picture is somewhat complicated by the scarcity of inflected forms available. If there exists a verbal form inflected for a certain combination of pronominal features, nothing changes, as exemplified by the [3 pl, past habitual] of *ól* 'drink':[1]

(2)	a	d'ólaidís OL.past hab.3.pl 'they used to drink'	b	*d'óladh siad OL.past.hab they 'they used to drink'
	c	*d'ólaidís na mic léinn d	d	d'óladh na mic léinn

1. Verbal stems undergo mutation of the initial consonant in past and conditional tenses, or prefix *d* if vowel-initial like *ól*.

OL.past hab.3.pl the students	OL.past.hab the students
'the students used to drink'	'the students used to drink'

But inflected forms are only available for a small minority of all the slots of a verbal paradigm. When no inflected form is available, the base form (of the relevant tense / mood) is quite naturally compatible both with a pronoun or a full NP, as illustrated by *ól* in the present tense:

(3)	a	ólann sí	b	ólann Nuala
		OL.pres she		OL.pres Nuala
		'she drinks'		'Nuala drinks'

The proper analysis of the whole Irish conjugational system is *not* the main topic of this paper. Before focussing on prepositions we must know, however, that compelling evidence has been presented against the view that the complementarity between inflectional agreement endings and overt NPs may be due to syntactic incorporation of pronouns into the stem (McCloskey and Hale 1984, McCloskey 1986).

2.2. Whatever its explanation, the complementarity of inflectional agreement markers and realized DPs is robust and exceptionless—almost. One exception, that I mention just to put it aside immediately, is represented by those southern dialects where a [3 pl] verbal ending in the present tense coexists with the pronoun 'they' or, much more rarely (Ua Súilleabháin 1994:515), by a lexical DP (cf. McCloskey and Hale 1984). But there is another exception shared by all dialects (and by the normative standard), consisting in a surprising "parasitic" instance of inflection on two prepositions:

(4) The prepositions whose base forms are *le* and *trí* ('with' and 'through') must appear in their respective [3 sg m] forms *leis* and *tríd* in front of the definite article. This is obligatory where the article is the singular *an*; optional, and restricted to *le*, when it is the plural *na*.

Actually, a morphophonological readjustments of prepositions in front of the article (there is no indefinite article in Irish) is nothing surprising in the language. The article is a clitic, and prepositions are themselves weakly accented. When a preposition ends in a vowel, the article is obligatorily cliticized to it, losing its syllabic nucleus: *faoi* 'under'+ *an* becomes *faoin*, *do* + *an* gives *dón*, and so on. Besides, *i* 'in', which also ends in a vowel but triggers nasal mutation on a following segment, coalesces with the article undergoing a change that can only be defined as suppletion (synchronically): *i* + *an* is *sa* (*san* in front of vowels), and *i* + *na* is *sna*. Finally, in southern dialects prepositions ending in a vowel develop an epenthetic /s/ when the plural form of the article is cliticized to them (Williams 1994:463, Ua Súilleabháin 1994:503): *de* + *na* --> *desna*, and so on.

However, the change described in (4) is different. It does not manipulate the phonological representation of these prepositions, but their morphological make-up: they end up being unambiguously [3 sg m], and thus getting two realizations very different from one another. Correspondingly, these forms do not spell out the group P + article, but P alone; the article still follows.

Things would be mysterious enough if this morphological change resulted in a configuration of agreement between P and DP, something unattested anywhere else in Irish. But it is not even agreement. Consider the paradigms of the two relevant prepositions:

(5)

	base form: le	*base form*: trí
1 sg	liom	tríom
2 sg	leat	tríot
3 sg m	leis	tríd
3 sg f	léi	tríthi
1 pl	linn	trínn
2 pl	libh	tríbh
3 pl	leo	tríothu

The article only contrasts singular *an* and plural *na*, so that *an* can perfectly well be the determiner of a grammatically feminine N like *bean* 'woman' as in (6), even though *leis* is the masculine form and minimally contrasts with the feminine *léi*:[2]

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2. The initial nasalization on *bean* is triggered by the sequence P + article, regardless of P. Dialects differ on the presence of nasalization or lenition in this context.

(6) a leis an mbean
'with the woman
b *le / léi an mbean

In the same way, the [3 sg] *leis* minimally contrasts with the [3 pl] *leo*. So, when *le* appears as *leis* in front of the plural article *na* its number clashes with that of the article (which necessarily agrees with the head N).[3]

Having excluded gender and number, we might think of person: perhaps the least marked of the third person forms, the masculine one, is selected by a marked morphological rule of agreement with a (necessarily third person) full DP complement. But this fails to explain why the rule should be sensitive to the appearance of the article, and of the singular article at that. If the triggering feature [3] were a property of the syntactic representation, then we would expect *le* and *trí* to turn into their [3 sg m] forms in front of just any full DP, independently of the article. And if it were a property of the particular lexical item inserted under the complement node, rather than of the node itself, then we would be forced to stipulate an otherwise unmotivated marking [3] for the article (again, limited to the singular) and for nothing else. What is more, there exist forms that *are* actually marked for person: possessives, which in Irish are like agreement markers occupying the same place as articles (and universal quantifiers). But (4) is only sensitive to articles: anything else, including possessives, is indifferent:

(7) a *leis a mhuinteoir
'with his teacher'
b lena mhuinteoir

This example does more than show the lack of agreement between the preposition and the possessive (which contrasts with forms realizing different persons). The well-formed sequence *lena* in (7b) is particularly interesting in that it shows the same sort

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3. Recall that there is no agreement in person / number conjugation, but Ns agree with adjectives and articles.

of (morpho)phonological adjustment we have considered in connection with other prepositions followed by a prosodically weak element. Here a sonorant is automatically inserted to avoid a hiatus, a phenomenon attested elsewhere in Irish. So, in some circumstances at last *le* (and the same holds of *trí*) does behave just like other prepositions in being subject to morphophonological readjustments. But then we must conclude that (4) is something else.[4]

The solution I would like to propose is that (4) is in fact another case of epenthesis, which inserts material between a preposition and a following weak element morphologically specified. But it is a purely morphological process: the material inserted is an agreement slot containing features that must be discharged. Inserting an agreement slot is a very odd thing to do, and the choice of *an* is a very odd context, but this will become more understandable when seen as a development of earlier stages in the language.

2.3. There is a unitary historical reason for the presence of /s/ as alternant of the preposition *i* 'in', as epenthetic consonant between prepositions and article in southern dialects, and, I would like to claim, for the use of the formative *leis* in front of *an*.

In pre-documentary stages, the Celtic and Goidelic article had an initial /s/: **sindos*, **sinda* and **son* for the three genders in the singular (Thurneysen 1946, §467; Pokorny 1969, §85). Phonological reduction had already transformed this form into *in* by the Old Irish period (ca. 700-950), but the lost segments could still condition a number of morphophonological alternations, some of which have been

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4. Note also that (4) is triggered by a DP beginning with the definite article, but not generally by any definite DP; cf. (7) above and (i)-(ii):

(i) le / * leis Cáit
'with / * with.3.sg.m Cáit'

(ii) le / * leis gach uile duine
'with / * with.3.sg.m every person'

So, (4) cannot possibly be triggered by agreement in definiteness.

morphologized and survive into the modern language.[5] In particular, the initial /s/ of **sind-* resurfaced in the alternants of some prepositions (those with consonant-final stem) when they were morphologically merged with the article (Thurneysen 1946, §§ 839, 840, 842, 845, 856):

(8) a *frith* 'against'; *frisin* 'against the [m sg]'
b *íar* 'after'; *íarsin* 'after the [m sg]'
c *i* 'in'; *isin* 'in the [m sg]'
d *la / le* 'with'; *lasin* 'with the [m sg]'
e *tri* 'through'; *trisin* 'through the [m sg]'

The modern-day /s-/ alternant of the preposition *i* in *sa(n)* 'in the [sg]' and *sna* 'in the [pl]' clearly derives from the older form merged with the article (8c). Originally this change must have been phonologically predictable, but at some stage (possibly before the Old Irish period) it must have become a phonologically unpredictable morphophonological alternation inserting /s/. Evidence for this is provided by modern southern dialects where even prepositions ending in vowel now take a non-etymological /s/ before the plural article (Ua Súilleabháin 1994:503 ff.): *ó + na* --> *ósna* 'from the [pl]'. The form taken by a preposition followed by an enclitic article, thus, ceased to be phonologically predictable on the basis of underlying phonological representation, and was determined by rules of epenthesis (which, as we have seen, in (7), are independently attested in Irish).

The link between this generalized /s/-epenthesis in front of articles and the synchronic rule in (4), which mentions a cluster of pronominal features and not /s/, is provided by the accidental similarity between Old Irish *lasin / lesin* 'with the [3 sg]' and the inflected form *less / leiss* 'with [3 sg m]' + article *in* --> *leissin*. After /s/ ceased to be synchronically related to the article, its appearance in *lasin* was

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5. For instance, the Old Irish article *in* [m sg] becomes *int* before a noun beginning with vowel: *in macc* 'the boy, son', but *int athir* 'the father'. Likewise, its Modern Irish descendant *an* (now undifferentiated for gender) prefixes a *t* to a masc. noun beginning with vowel: *an mac* 'the son', but *an t-athair* 'the father'. The final /s/ of the masc. article **sindos* was regularly aspirated to /h/ (i.e. debuccalized) in intervocalic context, i.e. in front of a (necessarily masc.) noun beginning with vowel. By further phonological erosion, this /h/ became adjacent to the /d/, thereby devoicing it: **sindos>indh>int*. Similar effects are pervasive in the morphology of the Old and Modern Irish article.

synchronically arbitrary; likewise, the [3 sg m] was (and is) the only form in the paradigm of *la/le* to show an /s/, which also happened to have palatal quality in both cases. The fortuitous near-identity[6] of these two forms, both displaying an exceptional and synchronically unmotivated /s/, makes it quite likely that they should have been subsequently morphologized as one and the same form. Thus, a morphological alternation that turned *la/le* into a form indistinguishable from its [3 sg m] alternant in front of an article, was replaced by turning *la/le* into this very inflected form in the same context—namely, rule (4) above. This historical change is summarized in (9) (from now on, upper-case letters are used for abstract forms, as opposed to phonologically represented sequences):

(9) a *le* + *in* --> *lesin* >
b LE --> [3 sg m] / ___ *an*

This morphologization was made possible by the (near-)identity of the first part of *lasin* with the inflected form of the preposition. No such similarity existed between *trisin* 'through the [3 sg]' and *trit* 'through [3 sg m]'. We must therefore think that the rule (9b) was modified to apply to *tri* as well. In fact, the morphological alternation requiring the inflected form [3 sg m] in front of the article was lexically restricted, and it does not make a big difference whether an idiosyncratic rule has just one preposition as input or two. We must then modify (9b) as in (10):

(10) {LE, TRI} --> [3 sg m] / ___ *an*

As the foregoing considerations have shown, the arbitrariness of a rule like (10) becomes understandable when the historical dimension is considered. We have also seen that (10) belongs with other phenomena of morphophonological readjustment of prepositions in front of articles and clitics. Having set this morphological alternation in its proper context, we must now turn to a more in-depth synchronic analysis.

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6. Complete identity, actually, since the preposition is unlikely to have often been accented, and we know independently that unaccented vowels mostly lost quality distinctions during the Middle Irish period (McCone 1987). Note also that the Old Irish form *la* coexists with *le* (cf. Thurneysen 1946, §845), which is like *leiss* in having a palatal initial /l/.

3. Preliminary morphological analysis

3.1. In purely synchronic terms, a formulation of the rule as in (10) is unsatisfactory for lack of explanatory power. The feature bundle [3 sg m] could in principle be replaced by any other, thus missing the obvious fact that that particular choice of features is the least marked one. More generally, (10) raises the problem of how such a feature bundle should be interpreted: actually, it should not be semantically interpreted at all, because it only appears to satisfy a purely morphological constraint. But this cannot be achieved in a model where, say, all word-formation (including inflection rules) takes place before the morphological objects thus created are assembled in syntactic representations and delivered to interpretation. Suppose then that we split derivation and inflection, and define the latter as that component of morphology that realizes (according to its own principles) the information provided by the syntactic environment (Anderson 1992, Beard 1995). Rules of agreement and concord should fall prototypically in this latter category; yet we have seen that the appearance of inflected forms *leis* and *tríd* in front of the article is special precisely because it is not an instance of agreement. A formulation like (10) has the merit of clarifying that the features [3 sg m] have no syntactic source, but this is obtained at the cost of simply stating a fact about two prepositions, without any claim about the nature of agreement and inflection in Irish, and evading the deeper questions: can pronominal features really be freely sprinkled on a structure? And what kind of representation is (10) referring to, if it is neither syntactic nor (purely) phonological?

To bring out more concretely the problematic nature of (10), we could consider it as a rule of referral (Zwicky 1985), an instruction to the morphological component to realize a given input as if it were a different input. In this case, a lexically restricted rule "refers" the inputs corresponding to non-inflected LE and TRI to the rule realizing LE [3 sg m] and TRI [3 sg m]. However, this is not enough: the rule must apply in front of the article only, not to every instance of non-inflected LE and TRI. Crucially, this context must be explicitly indicated; it does not correspond to a syntactic configuration that provides the prepositions with an appropriate marking, because there can be no question of agreement. But a rule formulated in such terms, contextually dependent on a linearly following*word* (not a feature), is profoundly different from a rule of referral. The concept originally proposed by Zwicky captures

systematic syncretism within the paradigm, and thus brings out regularities thet would otherwise be missed. But a rule that adds featural content depending on the following word tells us nothing about the paradigm, or about the inflectional system generally. So, since the context must be indicated, rephrasing (10) so as to make it look like a rule of referral would not advance our understanding.

3.2. Let us reconsider the paradigms for LE and TRI, this time listing the phonological shape concealed by the standard orthography (/C'/ stands for palatalized C):[7]

(11)

	base form: l'e	*base form*: hri:
1 sg	l'um	hri:m
2 sg	l'æ:t	hri:t
3 sg m	l'eʃ	hri:d'
3 sg f	l'e:	hri:
1 pl	l'iN'	hri:N'
2 pl	l'ib'	hri:b'
3 pl	l'o:b	hri:b

Although the forms cannot be all clearly segmented, some suffixes are discernible: [1sg] /m/, [2 sg] /t/, [1 pl] /iN'/, [2 pl] /ib'/, [3 pl] /b/. This applies not only to LE and TRI but generally to all prepositions. These suffixes are accompanied by changes in in the root vowel, but it seems that these changes are to a great extent phonologically predictable on the basis of the palatal or non-palatal quality of the suffix. To the extent that they are not automatic, these changes can be stated as rules of conditioned allomorphy of the general format "stem X becomes Y before suffix Z".

The forms for [3 sg f] would appear to fall outside of this class, but a more careful inspection reveals a number of regularities. Consider the following forms of the prepositions *ag*, *ar*, *as*, *i*, *thar* (consonant-final stem), and *do* (vowel-final):

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7. The phonological realizations vary across dialects; (11), from De Bhaldraithe (1977:141-144), illustrates a southern Connacht (western) variety, chiefly characterized by a final /-b/ in the [3 pl] and by the "aspiration" (spirantization and debuccalization) of initial /t/ of TRI, resulting in /h/. Dialectal differences do not obscure the regularities of the system; for example, in south Connacht *every* preposition ends in /b/ in the [3 pl].

(12)

	base form	1 sg	3 sg m	3 sg f	
ag	eg´	a:gəm	eg´ə	ek´ə	'at'
ar	er´	orəm	er´	orə	'on'
as	a:s	a:səm	a:s	æ:ʃd´ə	'out of'
i	ə	u:Nəm	ɑ:N	iNt´ə	'in'
thar	ha:r	ha:rəm	hæ:r´iʃ	ha:rt´ə	'over'
do	γə	γum	γo:	γi:	'to'

The form of [3 sg f] always ends in a vowel, which is systematically a lengthened vowel for vowel-final stems and a schwa for others. It inserts an epenthetic dental stop after the final continuant of consonant-final stems (/a:s/, /in/ and /ha:r/), and devoices the final stop of other stems (/ag/). The forms of *ar* in the second row is especially noteworthy. The [1 sg] and [3 sg f] (and the rest of the paradigm) are both based on a stem /or/, even though the base form /er'/ is identical to the [3 sg m]. This illustrates one of those instances where the base form has coalesced with [3 sg m], a not uncommon phenomenon especially in Connacht dialects (Ó hUiginn 1994:598-602). Even in this case, however, the [3 sg f] takes the form of a vowel suffixed to the same stem /or/ to which all other suffixes are attached. Overall, the evidence suggests that [3 sg f] should be included among the feature values which are realized by the means of suffixation—possibly of a floating autosegment V.

A first generalization thus emerges: only for [1 sg/pl], [2 sg/pl], [3 sg f] and [3 pl] can rules of exponence realize the pronominal inflection of any arbitrary preposition P. By contrast, the base form and [3 sg m] have unpredictable realizations: knowing their forms in the paradigm of preposition P1 is not enough to know them for preposition P2. The realization rules for these forms must specify which preposition they apply to.

As a first approximation, the morphological rules that underlie paradigms like those in (11) must take the following form:

(13) a *inflected forms*:

P: 1 sg --> /Xm/
P: 2 sg --> /Xt/

LE: 3 m --> /l'eʃ/ TRI: 3 m --> /hri:d'/

P: 3 f --> /XV/

P: 1 pl --> /XN'/
P: 2 pl --> /Xb'/
P: 3 pl --> /Xb/

b *base forms:*

LE: --> /l'e/
TRI: --> /hri:/

These realization rules are listed following the paradigm in (11). But an intrinsic ordering can be derived on the basis of markedness hierarchies: assuming [sg] to be the unmarked value for number, it need not be specified, if an item is not [pl]. Likewise, there is no need to state that an input is [3] if it is neither [1] nor [2] (following Benveniste's (1946) influential analysis of the third person as "non-person"). Then, the rules realizing [1 pl] and [2 pl] will be ordered before the others, under the standard assumption that rules are applied in order of descending complexity, rule X preceding Y iff the input of X contains the information of the input of Y and more (Panini's principle; cf. Kiparsky 1973):

(14) a P: 1 pl --> /XN'/
b P: 2 pl --> /Xb'/

c P: 1 --> /Xm/
d P: 2 --> /Xt/

e P: pl --> /Xb/

f P: f --> /XV/

(14c) can generically refer to [1], given that after the application of (14a) the only first person is singular; the same applies to (14b) and (14d). Without any other comment, however, this ordering will not in itself prevent two rules from applying (incorrectly) to the same input: for example, a node marked [1 pl] may undergo rule (14a), and then (14c), because the latter is designed to apply to any first person.

Ordering, therefore, must be *disjunctive*. The Extended Word-and-Paradigm approach (Anderson 1992) derives this crucial property by organizing rules in *blocks*.

A block lists mutually exclusive (disjunctive) rules that compete with each other for the realization of certain properties. Typically, a rule block contains all affixes that may fill a position of exponence; but both concepts "affix" and "position of exponence" are derivative in this approach. Within a block, rules are applied in order of descending complexity,[8] and the last rule is a default: it applies *elsewhere*, when none of the other rules can apply. Blocks are themselves ordered, so that the same features that trigger a rule in one block may trigger another rule in a following block.

A different approach, the one that I am following here, derives disjunctivity from the assumption that features are *discharged* by the realization rule they trigger (Halle and Marantz 1993, Noyer 1997, and references contained therein). Syntactic terminals are feature bundles which can be rearranged and manipulated by an autonomous morphological component according to language-specific morphological conditions. One such condition holding in the grammar underlying Irish, for example, dictates that gender (which we may presume is specified for every combination of pronominal features in the syntactic representation feeding LF) is deleted except in the [3 sg]—and everywhere for verbs (Noyer (1997:lxxii) specifically proposes a theory of feature impoverishment along the lines of Bonet 1991). Features are then discharged by being mapped to feature-filling rules (affixes, in the unmarked case); crucially, any feature is discharged only once. Given a set of rules ordered (intrinsically) as in (14), only one rule will apply to a syntactic terminal marked 'P' and provided with pronominal features: the first one that matches the input, which given the decreasing order of complexity will automatically ensure the closest match. A terminal specified [P, 2, pl] will trigger (14b). After (14b) has applied, the two features [2] and [pl] are discharged from the input and therefore neither can condition any other rule. A terminal [P, 2, sg] is distinct from the inputs of (14a-c), but not from (14d), which must be considered next given the intrinsic ordering of the rules. And a terminal marked [P, 3, sg, f] will contain feature specifications that conflict with every rule in (14) except the last one. We don't need to state that rule application is disjunctive, because this results from the requirement that discharged features cannot trigger any other rule. Exactly one suffix will be added for any choice of features in (14).

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8. An ordering relation within a block need not be defined for all pairs of rules. For example, (14a-b) is ordered before (14b-c), but (a) and (b) on the one hand, and (c) and (d) on the other, are not ordered between them.

If a discharged feature was completely invisible for further morphological operations, however, every feature should be realized by exactly one affix, and by nothing else. There would be no room for non-phonologically predictable alterations to the stems triggered by particular suffixes, and in general for any kind of conditioned allomorphy. To avoid this incorrect conclusion, Noyer (1997:14-17) formalizes Carstairs's (1987) distinction between primary and secondary exponence in terms of discharge vs. conditioning context. If a rule discharges feature X, then no other rule can discharge X; but X may still appear in the input of another rule that discharges feature Y. The affix that discharges X is X's primary exponent; the affix that discharges Y only in the context of a previously discharged feature X is X's secondary exponent. I will therefore assume that the suffixes introduced by (14) discharge the relevant features; allomorphy rules (to the extent that they are not reducible to automatic phonological processes) are merely *sensitive* to these features, but do not *discharge* or realize them.

3.3. Let us now turn to the two remaining forms: base, or non-inflected, and [3 sg m]. They have four special characteristics: 1) they are stem-specific; 2) they realize less marked feature values than the other rules; 3) in some dialects, and for some prepositions, they are one and the same form; 4) the parasitic inflection of LE and TRI in front of an article turns the former into the latter.

The analysis that suggests itself consists in treating the rules realizing them as elsewhere cases, one representing the least marked choice for pronominal features ([3 sg m]), and the other being chosen if no pronominal features are present at all in the input.

(15) a LE: --> /l'eʃ/
b TRI: --> /hri:d'/

(16) a LE: --> /l'e/
b TRI: --> /hri:/

In this view, the two elsewhere cases have fallen together in those dialects where base = [3 sg m] form. But several problems arise at once when we turn to a concrete implementation.

The most obvious one is that there can be, by definition, only one elsewhere case for any disjunctive set of rules. Recall that in our model morphological rules of realization are paired to syntactic terminals consisting of feature bundles. Rules state that certain feature bundles (input) are transformed into instructions to phonology (output). Among all possible rules whose input features do not conflict with those of the terminal X, the system automatically selects the one whose input determines the closest match with the feature bundle of X (this is achieved by ordering the rules in descending order of complexity). In the case at hand, we are considering the rules that realize terminal P. If P is provided with any combination of pronominal features distinct from [3 sg m], one of the rules in (14) must apply, realizing P as the appropriate inflected form. For the values [3 sg m], however, we have reasons for preferring an elsewhere rule over one that explicitly mentions this feature bundle in its input. So, no rule maps [3 sg m] to a realization; this choice of feature values must fall out as a default case. This is the crucial point: in order to distinguish the base form from [3 sg m], we are hypothesizing not one but two elsewhere rules, one applying to P when it is inflected and the other when it is not. How do we know which one is to apply?

The answer is that we don't. If [3 sg m] is to be an elsewhere rule, then its input cannot mention any pronominal features at all. "Elsewhere" means "whenever P has information different from xyz (=(14a-f))", and this is the case both for the base form and for the form associated with [3 sg m]. In general, no rule like (15) can be introduced as elsewhere case for inflected P, unless the information that P is inflected is expressed on P *independently of the features* which P realizes.

There are ways to mark Ps subject to inflection without mentioning values for pronominal features; the question is whether they are revealing. I will briefly consider two such strategies that are, in my opinion, no more than descriptive restatements.

3.4. We might group together all rules realizing inflection on Ps, among which [3 sg m] would be a natural default; then the base form must be introduced by a different kind of rule, necessarily ordered after the inflectional rules. This would be both theoretically and empirically unsatisfactory, though. Theoretically, the enforced extrinsic ordering (perhaps obtained by placing the base form rule in a separate block) would miss the obvious fact that the base form needs less information than the elsewhere rule for realizing inflection; its being the last rule to apply should be

derived, not stipulated. Empirically, the base form would simply never be selected, being systematically bled by the rule for [3 sg m] (which, being an elsewhere case, needs no explicit information).

A better alternative consists in employing the distinction between features and values (cf. Zwicky 1985): "Person" (P in (17)) is a feature, "second" is a possible value for that feature. Rules (15a-b) would then realize the features of person, number and gender, but without selecting values for these features. This is illustrated for LE, here contrasted with the rule realizing [2 pl]:

(17) a P: [P:2, NUM:pl, GEN:] --> /Xb'/
b LE: [P: , NUM: , GEN:] --> /l'eʃ/ (= (15a))

This format expresses just what is needed: the information that any rule which indicates at least one feature value (two in (17a)) is more specific than (17b), while at the same time the latter is more specific than a rule which mentions no features at all:

(18) a LE: --> /l'e/ (=(16a))

Even though this formalism describes the facts correctly, there are reasons to look for something better. Of the four special properties of [3 sg m] and uninflected base form mentioned above, only the second (less marked status with respect to (14)) and the third (occasional syncretism of the two forms) are accounted for. The lack of a suffix shared by all prepositions in precisely these rules, and the exceptional appearance of (17b) for (18) in front of the article, remain fortuitous coincidences. Besides, (17) and (18) lack a common trait of genuinely explanatory analyses: they have no consequences outside the domain under direct scrutiny. Any alternative that could broaden the empirical domain of the explanation is to be preferred, although its existence is not logically necessary.

4. Agreement in morphology and in syntax

4.1. A more promising analysis is made available by dropping the tacit assumption that inflected prepositions are those on which pronominal endings appear—or, in

other words, that inflection is realized inflection. Pursuing the separationist approach most forcefully argued for by Beard (1995), we are thus distinguishing properties from their realizations. I will propose that, contrary to what is generally taken for granted, pronominal agreement is a property of *all* inflecting prepositions whenever they occur, even in their base form. General principles determine the pattern according to which this abstract property is realized. Some of these principles are syntactic in nature, and concern the visibility of features on complex syntactic objects; others are morphological, and concern the relation between feature bundles and their exponence. This analysis is built on rather general hypotheses on the morphology-syntax mapping and on the properties of Irish conjugation; correspondingly, it answers the original question posed by parasitic inflection in the context of much more general claims.

Any analysis of the verbal and prepositional conjugation in Irish should take into account that inflection is a property of all finite verbs, but not of all prepositions. (19) and (20) list, respectively, inflecting and non-inflecting prepositions taken from all three dialectal groups,[9] omitting phrasal prepositions (like the English *in the course of* or *because of*):

(19)
a *ag* 'at'
b *ar* 'on'
c *as* '(out) of'
d *chun /chuig* 'towards'
e *de* 'of, from'
f *do* 'to, for'
g *faoi* 'under'
h *i* 'in'
i *idir* 'between'
l *ionsar* 'towards'
m *le* 'with'
n *ó* 'from'
o *roimh* 'in front of, before'
p *thar* 'beyond'
q *trí* 'through'
r *um* 'towards'

(20)
a *ach* 'except, but'
b *amhail* 'like'
c *gan* 'without'
d *mar /marach* 'as'
e *seachas* 'except'
f *trasna* 'through'

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9. Although dialectal variation affects the use and frequency of some prepositions, the point is that all dialects have both inflected and non-inflected prepositions, taken from the two classes here illustrated.

Admittedly, non-inflecting prepositions are more marked than inflected ones in several respects. They are fewer, less common cross-dialectally and less frequent within the same dialect; besides, some of them (*amhail* and the Munster form *trasna*, for which see Ua Súilleabháin 1994:509) derive from older nouns in adverbial use, or (*seachas*) from an old inflecting preposition. Despite their marked status, however, non-inflecting prepositions are as much a part of Irish grammar as inflecting ones, and their prepositional nature is synchronically beyond doubt.[10]

Speakers of Irish know which preposition can inflect and which cannot. Knowledge of this type concerns the *Vocabulary*, here understood as the catalogue of forms available in a language, and the *Lexicon*, more narrowly understood as the catalogue of listed elements (the bases turned into Vocabulary items by morphological rules). One way to represent the knowledge of which listed element (which P) has an array of inflected Vocabulary items, and which has none, consists in simply stating the inflected forms for the relevant Ps. Another one consists in positing a lexically restricted constraint on morphological well-formedness: some Ps, but not others, are ill-formed morphological objects unless they are provided with "inflection", an abstract property subject to morphological interpretation and realization.

Let us be clear about the nature of this requirement. An inflecting P is chacterized, as a listed element, by a set of features (understood as atomic encodings of information that can be read by the grammatical system). Some information has a purely grammatical nature, i.e. is meaningless out of a specific grammatical system or subsystem. For the workings of syntax, the information contained in terminals that we label "P" includes categorial features, information relevant for semantic interpretation, and possibly contextual restrictions. Positing a morphological well-formedness condition on some Ps amounts to the hypothesis that elements listed as Ps differ from one another in a way that only emerges after syntax, when the morphological component scans the complete syntactic representation. The need of pronominal inflection is a morphological (not syntactic) property of certain Ps in Irish, just like the need of a thematic vowel is a morphological property of some verbs but not others in Classical Greek, for instance.

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10. Note that non-inflecting prepositions are not defective in the same sense in which some verbs are: none of the forms in (20), from the extremely common *gan* to the dialectal *marach*, ever inflects for any choice of features. Finite verbs, by contrast, may lack some or most forms of the paradigm, but the remaining forms are inflected.

The next question, namely how to express this morphological propety, immediately requires a better understanding of what has been loosely referred to as "inflection" or "(pronominal) agreement". Pronominal features are grouped in the feature classes of gender, person and number, each with a value. Each feature class (e.g. number) defines a paradigmatic space, whose values are determined by possibly complex systems of binary features. Languages differ greatly in the complexity of pronominal feature systems and in their exponence. The paradigms we have considered for Irish prepositional inflection show quite clearly that, in this case, morphology does not provide separate realizations for gender, person and number. Various combinations of features (one, two, or three at a time) are all realized by a single portmanteau affix, or by a special form of the stem if no affix is discernible. There is morphological justification, therefore, for speaking of pronominal features in Irish prepositional (and verbal) inflection as a unitary category, which will be still referred to as [Agr].[11] Even so, feature values must be specified; a characterization like [pronominal features] alone, or for that matter [number] without a value (as opposed to [number: sg]) makes no more sense than, say, [declensional class] without indicating which class.

Having clarified that [Agr] means "a unit of the morphological structure (of prepositions, here) where information is expressed about pronominal features", our hypothesis is that inflecting Ps are defined as those that are morphologically ill-formed without [Agr]:

(21)	*inflecting*	*non-inflecting*
	LE + [Agr] 'with'	GAN 'without'

This piece of knowledge entails two requirements. One is that a terminal whose features define the lexical entry LE should be endowed with [Agr] to allow

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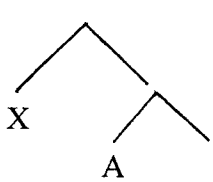
[11]. This label has one important shortcoming: it takes for granted that X inflects for pronominal features just in case X "agrees" with the values of some other terminal Y. The postulation of a head "Agr" further confuses the picture. I will try to disentangle the various notions at play in what follows. For now, I retain the label [Agr] for what could be named [Pronominal Infl] (a unitary morphological entity expressing information on pronominal features).

morphological interpretation; the other concerns [Agr], whose content must be identified.

If nothing else was said, [Agr] may already be present in the syntactic representation, or it may be added to the P node in Morphological Structure (as per Halle and Marantz 1993). Its values would then be inherently specified (in which case they must match those of the argument DP), or filled in by Concord, under syntactic locality. But then, inflecting prepositions would not be any different from finite verbs in languages such as Italian or French; and the null hypothesis would be that, as in verbal inflection, [Agr] features are hosted in a special syntactic head Agr° to which P adjoins (perhaps in order to check Agr°'s [P] feature). The match between the values of Agr° and those of P's argument could be ensured if the latter filled the specifier of Agr°, just like a verb's subject. Non-inflecting prepositions would then simply lack an AgrP shell.[12] What I have described is, in effect, a rough outline of the analysis proposed by Rouveret (1991) for Welsh. But Irish differs from Welsh in several respects, and displays none of the properties that may suggest the presence of an Agr head above P (see Rouveret 1991 for relevant details). The descriptive peculiarities of Irish conjugation can be summarized as follows (see McCloskey and Hale 1984, McCloskey 1986, Andrews 1990), where X ranges over V or inflecting P:

(22)



a X is overtly marked for the pronominal features of its argument A if and only if A is a phonetically unrealized pronoun (*pro*)

b A phonetically unrealized pronoun is allowed only if governed by inflected X and in no other context.

c Whether or not X is inflected, it must be strictly adjacent to A.

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12. Chomsky's (1995) idea that Agr is never a syntactic head would make it harder to state this difference.

d In case A is a coordinated phrase consisting of $A_1 ... A_n$, inflection on X is determined on the basis of A_1 alone.

The biconditional in (22a) concisely expresses a number of regularities: overt marking appears only once between X and A, it appears *necessarily* whenever A has pronominal features (if it is a DP or a pronoun), and it must appear on X and not on A whenever a suitable form of X is available; in addition, the unrealized form of A must be a pronoun, not a trace of movement or an impersonally / arbitrarily interpreted empty category. The fact that *pro* does not appear without inflection and conversely (22b) strongly suggests that the two should be or become one and the same syntactic object in some sense. Yet McCloskey and Hale (1984) offer compelling evidence against the view that the inflection on X is simply A, moved from its base position (not least, the fact that modifiers of the pronoun remain stranded in that position). The movement approach may still be viable if understood as head-movement of a pronominal D onto inflected X, along the lines of Baker's (1988) theory of incorporation (Hale 1990, cited by Rouveret 1991; cf. also Andrews 1990:537-538). Alternatively, inflection on X may be identified not directly with pronominal A, but with the functional head Agr°, which in turn would be the place where pronominal A is obligatory expressed. This path is pursued, in different ways, by Rouveret (1991) and Roberts and Shlonsky (1996) for Welsh.

Our investigation concerns parasitic prepositional inflection, which is essentially just a principled exception to (22a); and obviously a satisfactory analysis of that phenomenon must rest on some analysis of the inflectional system as a whole. But there are many and varied reasons to be at least partly dissatisfied with each of the approaches just listed, apart from the important differences between Irish and Welsh inflection. Addressing each point would amount to a new analysis, something that requires indepth theoretical foundations and empirical justification, neither of which can be given in a digression. Luckily, we do not have to evaluate the details of each proposal in order to see that, no matter which approach is chosen to ensure that pronominal A regularly appears as inflection on X in (22), we still have to account for the adjacency effects described by (22c-d), for the nature and distribution of parasitic inflection, and for the observation that base and [3 sg m] form of inflected Ps have a special status in the paradigm (see 3.3 above). Almost all the cited analyses have only focussed on (22a); adjacency has been addressed by McCloskey alone (1986); the remaining properties of prepositional inflection have not been taken into account

before, to the best of my knowledge. An analysis of prepositional parasitic inflection that also entails a unified explanation for all points in (22) is clearly preferable, and I will now argue that assuming the absence of a syntactic Agr° head in Irish conjugation leads to just such an analysis.

4.2. The necessity if a morphological slot for inflection is crosslinguistically an extremely common trait. What makes Irish conjugation unusual, I believe, is the fact that the syntax does not provide the means to satisfy this requirement.

Recall that, in the separationist framework I am following, syntax assembles abstract feature bundles, not affixes. These bundles, possibly modified at Morphological Structure, are ultimately interpreted by morphological realization rules, which turn a featural input into a set of instructions to phonology. For Halle and Marantz (1993), affixes (which they call *morphemes*) realize morphological heads, which correspond to syntactic heads modulo Fusion, Fission, and Merger; in addition, a morphological head may be simply added at Morphological Structure to satisfy well-formedness constraints. Input features for realization rules are matched against heads of this type.

For reasons detailed in Acquaviva 1999, I would like to question the assumption that a realization rule for a head X can realize (or discharge) a feature F only if F is included in X. The question as to which link of a head-chain must be spelt out may find a principled answer if a lexical head LEX has access to semantic and morphological information represented as features under any functional (= non-lexical) head FUNCT, provided this is within the Extended Projection of LEX (i.e. within the set of non-lexical projections above LEX that jointly specify grammatical information relative to it; see Grimshaw 1997). It is the clear-cut separation between features and their exponents that makes it possible to state in a natural way that any feature in the Extended Projection of LEX "refers" to LEX, by definition (an insight expressed, in a rather different form, by Beard (1995)). But it is not true in the same sense that all the information contained in the whole Extended Projection "refers" to any of its heads FUNCT; therefore, metaphorically speaking, functional heads can be seen but cannot see (see Acquaviva 1999 for empirical justification):

(23) *Morphological Visibility*

a The morphological realization of a lexical head LEX must refer to features present in the Extended Projection of LEX;

b The morphological realization of a functional head FUNCT must refer to features present under FUNCT itself and to the categorial features of LEX.

This concept of Visibility represents one way to formally express, in a non-lexically-based framework, the need to represent syntagmatic information on single syntactic terminals, a necessity that has been especially emphasized within Lexical Functional Grammar (see Andrews 1990 and Börjars, Vincent and Chapman 1997 for two applications to issues very close to those discussed here). It attempts to respond to this requirement without systematically doubling syntagmatic information by the means of f-structures, and without adding primitives that would substantially alter the theoretical vocabulary of Distributed Morphology; to state (23a) or its contrary would be the same in this respect. In effect, (23) results from a deeper consideration of the syntactic background of Distributed Morphology, in terms different from those of Chomsky 1995.

Assuming Visibility as in (23), we can treat the /z/-morpheme of [3 sg] in English non-past lexical verbs (*sing-s*) as an exponent for agreement features hosted on a functional head INFL, not on V; and we can do that without having to posit that V raises to INFL. Halle and Marantz (1993) chose instead to have an [Agr] slot added to V at Morphological Structure. Since [Agr] is added after syntax for morphological well-formedness, a head Agr° is not necessary in syntax, and in fact the authors do not assume its existence for English. But free addition of [Agr] along these lines is clearly a rather unconstrained solution. Morphological Visibility as in (23) is a stronger principle, hence preferable on explanatory grounds, because it constrains the morphological addition of [Agr] on V by making it conditional on the presence of pronominal agreement features somewhere in the syntactic object we call Extended Projection of V. More precisely, (23) does not constrain the distribution of the slot [Agr] on V; it dictates that the features values in [Agr] must have a source inside V's Extended Projection and not elsewhere (the same applies to Ps). Where there are reasons to believe that the inflecting X has intrinsic features that must match those of a

DP (i.e. in agreement proper), this means that the pronominal features of DP must be represented in the Extended Projection of X—and, since DP is not a head, this can only happen if DP is the specifier of a functional head (in the Extended Projection of X) which hosts D's values of pronominal features: Agr°. For agreement proper, (23) thus derives Rouveret's (1991) generalization:[13]

(24) Agreement morphology can only be attached to a functional head.
(Rouveret 1991: 353)

In other instances, the agreeing values are more plausibly provided by Concord, or copying into an underspecified slot:

(25) X [Agr:] DP [Agr: αβγ] --> X [Agr: αβγ] DP [Agr: αβγ]

This is the classic notion of morphosyntactic agreement, going back to Chomsky 1965 (chapter 4) and taken up by Halle and Marantz (1993) for English verbs. If feature copying is to be an explanatory tool, X and DP must be local, either syntactically (specifier-head and head-complement relations) or morphologically (adjacency after linearization; see Halle and Marantz 1993 and, for analyses of copying, cf. Farkas 1990, Acquaviva 1998, Wiklund 1998). For Concord too, (23) requires that the source feature values should be visible to X inside X's Extended Projection:[14]

(26) A feature F can be copied into X only if F is visible from X.

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13. With the important proviso that Rouveret (1991) does not distinguish between exponence and abstract information, in keeping with most recent syntactic approaches to inflection. Note also that (25) is explicitly denied in the Agr-less model of Chomsky (1995), which raises a problem of inconsistency (correctly identified as such by Chomsky himself: 1995:393, note 133).

14. For readers who wonder at this stage how this requirement can possibly be met after linearization, I anticipate that feature-filling in [Agr] of Irish P will be possible only if P and DP have undergone Merger, which makes DP's features visible to P (and hence inside P's Extended Projection).

For Concord, (23) thus affords a restrictive theory of feature copying. But this cannot be the whole story for Irish conjugation, because both agreement proper and Concord describe multiple exponence in pronominal features, and multiple exponence is the one thing that Irish conjugation lacks. An obvious alternative suggests itself: in Irish, unlike in other languages, the Extended Projection of P and V has no head under which pronominal features may appear—in other words, no Agr°. Then, by (23), pronominal features cannot be "visible" for morphological interpetation under V/P: there is no syntactic agreement. Inflection is a purely morphological phenomenon, driven by the morphological requirement (cf. (21) above) of certain Ps and finite Vs, which cannot be simply met by just adding an appropriately characterized [Agr] slot. The array of properties listed in (22) should derive from this strictly morphological character of Irish agreement, in turn caused by the absence of syntactic Agr°.

Indeed, there is very little independent indication that abstract agreement is a category of Irish syntax, once we abstract away from the exponence of pronominal features on inflected forms. No purely grammatical auxiliary provides a lexicalization for verbal agreement (together with tense or mood or aspect). Even approaches to Irish syntax that rely crucially on the existence of distinct functional heads above V do not present any argument that one of these heads should host pronominal agreement (cf. Bobaljik and Carnie 1996, McCloskey 1996). The case for a syntactic encoding of pronominal features is stronger in nominal categories (cf. Duffield 1996); interestingly, categories inside the DP do show multiple exponence (or agreement, with lower-case initial) for at least one pronominal feature (number), which can be seen as evidence for the syntactic relevance of pronominal agreement in this domain:[15]

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15. In addition, feminine nouns trigger the initial mutation traditionally known as 'lenition' on following adjectives:

(i) fear maith
man good

(ii) bean mhaith
woman good

Even though this is not the only instance where an adjective must undergo initial lenition, in this particular case gender would appear to be crucial. However, an intervening modifier blocks lenition:

(iii) bean réasunta maith

(27) a scríbhneoir cáiliúil
writer famous
'(a) famous writer'

b scríbhneoirí cáiliúla
writer[pl] famous[pl]
'famous writers'

By contrast, verbs and prepositions show no such agreement (multiple exponence) in pronominal features with their arguments.

There would be no relation between these facts and those listed under (21), under the assumption that Agr° is always, or never (Chomsky 1995), part of the inflectional complex in natural languages. What is more, there would be no such relation even if we assumed, following Bobaljik (1997) and Bobaljik and Thráinsson (1997), that Agr° is syntactically present only if [Agr] appears as a discrete morpheme in the inflected verb alongside with Tense or other markers, i.e. not in complementary distribution with them. Such a theory establishes a principled link between syntactic and morphological structure, but Visibility as defined in (23) does that and more: it constrains the syntax-morphology match while also addressing the question as to what governs the choice of syntactic heads that are morphologically interpreted (see Acquaviva 1999), and in so doing it can also account for all of the Irish facts in (22) in a unified manner.[16, 17] Let us now turn to consider how this claim is substantiated by

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woman reasonably good

Therefore, gender-dependent lenition appears to be rather a morphophonological than a morphosyntactic phenomenon.

16. The explanation for the differences between Welsh and Irish conjugation should be added to the list, given that Welsh allows multiple exponence and, with striking correspondence, also displays on inflecting Ps a stem expansion that strongly suggests an incorporation of P onto a functional head (Rouveret 1991). The same explanation (Irish conjugation has no Agr°, and (23) holds) also accounts for the difference between Modern Irish and earlier stages of the language (Old- and Middle-Irish), where non-pronominal DPs agreed in Number (only) with third person forms of the verb (this pattern

a morphological analysis based on the views just expressed on the relation between syntax and morphology.

5. The morphological derivation of inflecting Ps

5.1. If inflecting prepositions like LE are taken to be associated with an [Agr] slot even in absence of overt exponence for pronominal agreement (as in the base form *le*), then this "slot" cannot be understood as an affix, nor as a position of exponence. The sequence *LE + [Agr]* in (21) is not a decomposition into morphemes (= meaningful affixes), but a decomposition into abstract morphological units, which will be realized in different ways according to the content of [Agr] and to the realization rules contained in the Vocabulary. Following Noyer (1997), I will refer to such abstract morphological units as "Ms", to distinguish them from syntactic heads (Xs).

The morphological requirement that LE must be accompanied by an M hosting pronominal features can be understood in (at least) two ways: either LE is inherently inflecting, the way nouns have inherent gender or, in some cases, number (*pluralia*

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is preserved in some Munster dialects (Ua Súilleabháin 1994, cited in 2.2. above). But the details of a comparative analysis will have to be left to the future.

17. I will have nothing to say about verb raising and evidence for multiple specifiers in the inflectional complex, two features that Bobaljik and Thráinsson (1997) correlate with discrete agreement morphology on V in SVO Germanic languages. Agreement and Tense have discrete exponents in Irish verbs too, so Agr should be one discrete functional projection in Irish according to that analysis; this tallies with the evidence for DP-movement targeting non-subject positions (see Bobaljik and Carnie 1996, McCloskey 1996). I assume that the Irish inflectional complex consists of several heads, but I see no reason for believing that Ag°r is one of them. Note that Bobaljik and Thráinsson's (1997) argument really concerns the *number* of inflectional heads, not primarily their identity. English has for them only one unsplit Infl; yet the single morphological slot on inflected verbs is filled by Agreement or by Tense markers, according to language-specific morphological requirements. As far as the morphological evidence is concerned, this single Infl may be called Agr or Tense (or F). Whatever its name, the proposal I defend in the text requires that this head hosts pronominal agreement features in English (where there is multiple exponence, or agreement), whereas no such possibility is available to (Modern) Irish.

tantum like *scissors* or *knickers*), or [Agr] is added by morphological rule. The first alternative is not straightforward, because inherently marked stems are characterized by an intrinsic *value* for some agreement feature: for example, masculine or feminine or neuter, not simply gender; singular or plural, not just number. To be sure, being less than straightforward is hardly a reason to discard a theoretical option. But it is enough to start considering the other option; as will be apparent later, arguments against treating LE_{Agr} as a monomorphemic lexical entry emerge after a precise analysis is attempted.

Let us therefore hypothesize a lexically conditioned morphological rule that adds to P an [Agr] M (or "slot", but not a position of exponence):

(28) [P] ---> [P] [Agr] (P ∈ {AG, AR, AS ... UM})

We have already seen that the gender, number and person never have separate exponents (in P/V conjugation), so that a syncretic morphological category "Agr" has independent justification. (28) then adds to the information which constitutes the lexical entry LE (or any other P from the list in (19)) a separate slot for pronominal inflection, to be filled in by contextually determined values. This is a way to state that some Ps must inflect for pronominal features, in the same way as some verbs must do; only that the relevant verbal class is grammatically, and not lexically, determined as that of finite Vs:

(29) [V] [Tns] ---> [V] [Tns] [Agr]

The input in both (28) and (29) represents whatever information must be present under the V/P terminal in the syntactic representation; the output represents the information manipulated and interpreted by the morphological component; the operation mapping input to output is a way to state that morphology can add an appropriate M for its own well-formedness requirements, although syntax requires no [Agr] under the terminal nor Agr^{o} in the phrase marker. All three (input, output, and operation) are hypotheses open to criticism. The chosen format describes precisely and succintly ("captures", in common parlance) the parallelism between verbal and prepositional inflection.

We now need a principled and revealing account of the way the complex [P stem] + [Agr] is mapped to the three exponence types here summarized (cf. (5), (11) and (14) above):

(30) a Inflected form (*liom, leat, ...*) — iff P's complement = personal pronoun.

b Inflected suffixless form [3 sg m] (*leis*) — iff P's complement = personal pronoun [3 sg m], *and* in parasitic inflection for LE and TRÍ (in front of the article).

c Base form (*le*) — elsewhere.

By hypothesis, the Extended Projection of LE contains no head syntactically endowed with pronominal features (from a DP). So the realization of LE cannot spell out LE + agreement features present under an Agr° head, because there is no such head. This means that pronominal features are not visible under P; yet the choice of realizations in (30a-b) refers to the feature values of P's complement. The only possible conclusion is that these features become visible (i.e. can be referred to by rules) after syntax. In the framework of Distributed Morphology, this is made possible by the morphological operation of Merger under structural adjacency. Halle and Marantz (1993) define Merger as an operation taking as input two distinct Ms structurally local (head and complement, in this case) and giving as output a complex M, where the constituent parts are still distinct (thus contrasting with Fusion, where they are not). Since the operation is defined on M's, which are the morphological counterparts of syntactic heads, the complement here indicated as α must correspond to a syntactic head, not to a phrase. Merger, thus, joins LE with the head of its complement under structural adjacency:[18]

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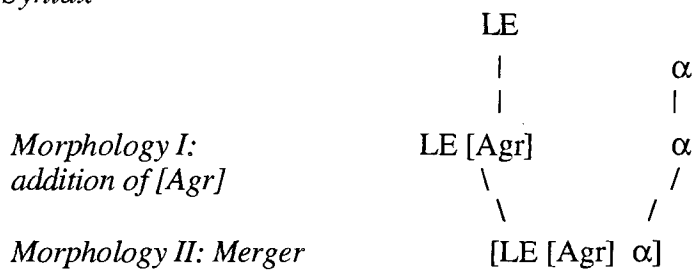
18. Merger and Fusion can also apply after linearization, in which case no structure is visible. The distinction will play a role in what follows.

(31) *Syntax*



The merged Ms LE, [Agr] and α are still distinct, but they are part of the same morphological unit in the same sense as discrete affixes are subparts of a word (in Distributed Morphology, not in Anderson's (1992) theory). Merger thus creates a complex morphological domain where the information carried by each component is visible to the others.

By Merger, the morphological component ensures that Agr features are visible to P in the same sense as [3 sg] is visible to the lexical head *like* in an English structure like the following:

(32) Does [$_{AgrP}$ Bob t [$_{VP}$ like porridge]] ?

The heads V, T [19], Agr and C are members of the same Extended Projection, and by (23a) the morphological realization of V can refer to any feature present under any of these nodes, not just to features present under V itself. The property of being characterized as [3 sg] is a property of the whole Extended Projection, so far as abstract features are concerned. This does not mean that V should spell out all of the features under T, Agr and C: the agreement suffix /z/ is attached the raised auxiliary in C, not to the V stem *like*, even though V and the subject DP are in the same mutual configuration that triggers agreement on V in affirmative sentences.[20] For the same reasons that enforce lexicalization of pronominal agreement features on C in the English (32) even though they are visible on V (see Acquaviva 1999 for a proposal), Agr features may have to be lexicalized under α in the Irish structure in (31), even

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19. The presence or absence of T is irrelevant.

20. This point is due to Andrews (1990). As far as I can see, Chomsky's (1995) approach to verbal agreement wrongly derives **does Bob likes porridge* here, or **do Bob likes porridge*.

though they are visible on P. In English, pronominal features are visible under V because they appear in V's Extended Projection. Irish Ps and Vs, by contrast, have no Agr head in their Extended Projection; but the morphological component has the means to ensure visibility by merging P (and V) with a structurally adjacent head which includes Agr features. When α includes agreement features, then, Merger has the effect of making these features visible to LE. Realization rules for LE may then refer to such features, which is enough to ensure morphological well-formedness.

Note that Merger cannot be driven by the affixal nature of LE, [Agr] or α, because phonological information is unavailable at this stage. Nor can it be driven by a condition requiring pronominal features for the realization of LE as an inflected form, because there is no such requirement: LE and other inflecting Ps (unlike verbs) appear in many contexts in a base, uninflected form ((30c) above). Most importantly, Merger cannot even be driven by the more abstract requirement that LE needs to be in a local relation with pronominal features regardless of its realization. That would be only the case if LE's complements were invariably marked for pronominal feature values. It would be fairly straightforward, in that case, to hypothesize that LE is listed as a simple P, which then coalesces with its complement α in order to create the required abstract structure LE [Agr]; suitable realization rules should then be stated to ensure that LE [Agr] appears as uninflected base form *le* whenever α contains more than just a choice of pronominal feature values (i.e., whenever α is a DP other than a personal pronoun). But inflecting Ps, including LE, can in fact take a complement other than DP; typically (perhaps exclusively) a non-finite clause consisting of a verbal noun plus its arguments, as in the periphrastic construction *féach* 'look' + *le* 'with', meaning 'try':

(33) Féicfidh mé le [labhairt leis]
see.FUT I with [talk with.3.sg.m]
'I will try to talk to him'.

Even when the verbal noun is preceded by an argument DP, McCloskey (1984: 460-463) provides evidence that P takes the whole bracketed phrase as its complement and not just the initial DP:[21]

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21. Technically, one could still maintain that the complement of LE in (33) is marked for pronominal features, because of the nominal nature implied by the traditional label 'verbal noun'. I

(34) Bhí sí imníoch faoi [iad a bheith amuigh].
be.PAST she worried about [they PRT be out]
'She was worried about them being out'. (McCloskey 1984:462)

In sum, the morphological merger described in (31) is obviously related to the requirement that inflecting Ps must be endowed with an [Agr] slot; but it cannot be entirely reduced to this requirement. I will now argue that morphological operations apply to maximize the interpretability of Ms by Vocabulary.

5.2. As we have seen, agreement suffixes for the values {1, 2, pl, fem} are invariant across prepositions. Therefore, the realization rules for inflecting Ps must be preliminarly grouped into two classes: rules for suffixes, only realizing [Agr], and

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find this solution unconvincing, though, because there is no independent evidence that the so-called verbal noun can ever be marked for such features; for example, that the whole phrase [*leabhar a léamh*] 'to read a book' contrasts in number with [*leabhartha a léamh*] 'to read books'; *léamh* 'to read' obviously does not agree in number with the fronted object. It is true that the complements of the verbal noun are realized and case-marked as if they were arguments of a noun, but the syntax of nonfinite clauses is not that of a DP (cf. Borsley 1993 for discussion on the very similar Welsh constructions). For example, a nonfinite clause but not a nominal can be directly governed by an adjective:

(i) Níl sí sásta [bheith ag obair i mBaile Átha Cliath].
'She is not happy to be working in Dublin'.

(ii) * Níl sí sásta [a cuid obair i mBaile Átha Cliath].
'She is not happy her work in Dublin'.

(iii) Níl sí sásta len[a cuid obair i mBaile Átha Cliath].
'She is not happy with her work in Dublin'.

This contrasts with CP infinitival clauses in Italian, for instance, which are clausal domains but require Case like DPs (Acquaviva 1989, 1991).

Finally, an explanation that depended on P's complement always being marked for pronominal features would not carry over to finite Vs, which can lack DP arguments (as argued by McCloskey (1996)).

rules for stems, always realizing the categorial features of the relevant P, plus possibly [Agr]. The rules for suffixes only differ from those in (14) above in that neither inputs nor outputs refer to the P stem:

(35) [Agr]$_P$:

a	1 pl	-->	/N'/
b	2 pl	-->	/b'/
c	1	-->	/m/
d	2	-->	/t/
e	pl	-->	/b/
f	f	-->	/V/

The label "[Agr]$_P$" means that the listed Vocabulary entries compete for the realization of pronominal agreement on lexical bases with categorial feature [P]. This contextual restriction is needed because agreement suffixes are not invariant across Vs and Ps (and Ds, assuming e.g. possessive pronouns to lexicalize [Agr] within DP). To spell out the linearized sequence of Ms, the morphological component scans the Vocabulary and associates each M with the realization rule whose input features most closely matches those of M. Rules apply in order of descending complexity, as we have seen, and paradigmatic hierarchies among feature values often establish an ordering between rules with equally complex inputs; as it happens, the required ordering for (14) and (35) conforms to the hierarchy PERSON > NUMBER > GENDER proposed by Noyer (1997). When the "optimal" lexicalization has been identified, the features in M that figure in the input of the rule are discharged and turned into instructions to phonology. What features are effectively discharged depends on the Vocabulary of the language, or in more neutral terms, on the morphological resources available to the language. For example, I have assumed in 3.2 that gender features are deleted except in the third person singular; therefore the feature value [fem] can only appear in an [Agr] which is also specified as [3 sg]. Yet such an [Agr] slot will be realized by rule (35f), which only discharges [fem].

What happens if the feature values for [Agr] are different from {1, 2, pl, fem}? Recall that there is no discrete suffix in this case, but a special form for each P. The realization rule, then, must contain the relevant combination of feature values in its input ([3 sg m], the only remaining combination), but must be formulated as a

lexicalization of a specific P and not of [Agr]P. Keeping to LE as example, we then have:

(36) LE:

LE, Agr --> /l'eʃ/

This rule is formulated as an instruction to lexicalize the M identified as the preposition LE by discharging the features of the stem along with pronominal agreement, whose values are not specified. It can only apply when the constitutive features of LE and some agreement features are contained in one and the same M, not when they are split into two Ms as in (35). Feature values for [Agr] are not specified, but this does not mean that (36) is the elsewhere case for (35): the rules in (35) realize [Agr]P, while (36) realizes a particular P, although it does so by discharging agreement features as well.

Having proposed rules for the realization of each inflected form, we must turn to the base form. In fact, the Vocabulary items still to cover are two and not just one: there is the base form *le*, but there is also the stem /l'- / to which the agreement suffixes in (35) are attached. Both must obviously be listed as rules for a specific P, just like (36), and neither can be seen as realizing agreement features (otherwise they would be rules for inflected forms); but they must be distinguished. The most satisfactory analysis, I believe, consists in treating the base form *le* as an allomorph of LE conditioned by Agr:

(37) LE:

a LE (Agr) --> /l'e/

b LE --> /l'- /

(36) and (37) must be considered together, as alternative (competing) rules for the realization of LE. (37b) has the least specific input: just the features defining LE, with no reference to agreement features. (36), as we have seen, applies to the same M but only when it contains agreement features, which are discharged by the rule. The minimally different (37a) exploits the notion of conditioned allomorphy, as implemented within Distributed Morphology by Noyer (1997), whose formalism I

also adopt. The input *LE (Agr)* indicates that only the features of LE are discharged by the realization rule; but the rule will not apply unless, in addition, agreement features (values are not specified) are visible in the same M containing LE. There are two ways in which a feature can qualify as visible: either if it has been discharged by a previous rule, or if it is an inherent feature of a stem. For example, if a noun is inherently plural, its number must be associated with the listed stem, instead of being determined by the syntactic context. The inherently plural stem is then always free to condition allomorphy on a subsequently attached M, or in other words, [plural] is visible (and thus free to condition allomorphy) without having been discharged by any rule. Rule (37a), therefore, applies whenever LE contains agreement features, just as (36); the difference is that (37a) does not discharge them, so that the rule will be restricted to contexts that do not require discharging of pronominal agreement.

5.3. Having introduced the realization rules contained in the Vocabulary, we can now see how an appropriate conception of morphological operations (Merger and Fusion) derives in a unified manner seemingly unrelated aspects of the paradigm and the distribution of inflecting Ps.

Our starting hypothesis is that LE is turned into LE [Agr] by a lexically restricted rule (in effect, a lexical redundancy rule). If there was no evidence of adjacency effects between the inflecting category and its DP argument (cf. (22c-d)), and if overt inflectional marking was not in complementary distribution with an overt DP (cf. (22a-b)), then we could conclude that the only realization rule operative in Irish conjugation is the one that lexicalizes LE provided with Agr features with no values specified. No other realization rule may be applicable. But things stand otherwise, and for this reason we have introduced a second hypothesis: P [Agr] undergoes Merger with its complement M (as in (31)). The result is a complex M [LE [Agr] α], where the features of each constituent are visible to the other two. At this point, the determination of which realization rule can apply depends on whether α contains pronominal features with specified values; that is, if the visibility of α entails that some values of [Agr] are identified. From now on, I will symbolize with "Φ" an arbitrary combination of pronominal features *with* specified value, like [2 f pl] or [1 sg]. While Φ is a variable, [Agr] is not and stands for the already discussed slot for agreement features *without* specified values. There are three possibilities, depending on whether α coincides with Φ, properly includes Φ, or does not include Φ:

(38) a LE + [Agr] + Φ
b LE + [Agr] + [... Φ ...]
c LE + [Agr] + [...]

In the first case, α is a personal pronoun. The second case is exemplified by proper names, possessive pronouns, Ns raised to D in the possessive construction (see Duffield 1996 and cited literature) or articles—in short, anything that can occupy the highest position in a DP and that contains information (possibly without exponence) about person, number or gender.[22] The third case corresponds to constructions like (32)-(33) above, where LE does not take a DP complement. The feature values Φ are visible on LE and [Agr] (in the sense of (23)) in (38a) and in (38b), but obviously not in (38c).

The Vocabulary must now interpret these inputs by the rules in (35)-(37). The last case, (38c), is the most straightforward: there is no information about pronominal features in α, so α will be spelt out according to its own realization rules, leaving LE

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22. Since we are talking about abstract features, it is not always obvious in principle whether a head (as opposed to a form taken from the Vocabulary) is in fact marked for pronominal features. Articles, for example, only contrast in number, so this specification must be visible under the node they lexicalize; but the gender of the head N dictates whether the singular article *an* should trigger lenition on the following word. This suggests that the Vocabulary contains in fact two singular forms of the article, contrasting in gender and homophonous but for the initial mutation they condition; consequently, the node they lexicalize should also be specified for gender. By Visibility (23b), I am assuming that the realization rules for a functional head must refer to features present under that head and not elsewhere in the Extended Projection. If that is true, then gender must be explicitly marked under the node D (or whatever is filled by articles), not just under N. But notice that the only basis for this conclusion is the gender-dependent lenition triggered by articles. What if there were no such visible effect? For example, *gach* 'every' is a pre-nominal modifier in complementary distribution with articles. Unlike articles, *gach* is insensitive to the gender of N. Must we posit that the node lexicalized by *gach* specifies gender, just because of the behaviour of the article? Does the presence or absence of [gender] under D in Irish syntax depend on the moprhophonological properties of *an*?

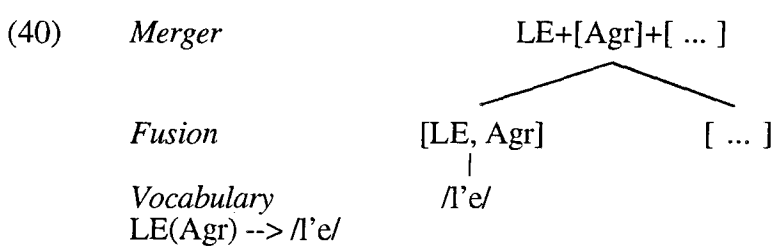
Be that as it may, this does not affect the point made in the text. What determines the realization of P is whether its head complement does or does not entirely consist of pronominal features, and anything that is not a personal pronoun (be it an article or *gach*) does not.

and [Agr]. The former can feed (37b), which translates the simple LE (without [Agr]) as the phonological base /l'- /; but this base is ill-formed without a suffix, and there is no rule that lexicalizes [Agr] on its own unless it has specified values. For morphological interpretation to be at all possible, LE and [Agr] must be lexicalized as a single M, a unitary constituent provided with both types of features:

(39) LE + [Agr] + [...] ---> [LE, Agr] ...

This amounts to saying that another morphological operation has applied, Fusion, turning two distinct Ms into a single, atomic one. The new M is a preposition LE with inherent Agr features, but not marked for any value; its verbal counterpart would be a form marked as finite by an agreement marker which fails to single out one particular Φ. Principled reasons make it unlikely that such a form may be listed in the Lexicon, as briefly discussed above, but it may arise as a consequence of a morphological operation (Fusion) manipulating an M structure. Since [Agr] has become an inherent feature of LE, Noyer's (1997) theory requires that it should not be discharged by an affix, although it can trigger allomorphy. Within this framework the monomorphemic structure of the base form and the hypothesis of an abstract structure LE + [Agr] are reconciled: a bipartite structure LE [Agr] is fused into one M, which is then mapped to an atomic Vocabulary item. Thanks to Fusion, the three-membered sequence on the left-hand side of (39) becomes fully interpretable by the Vocabulary: [...] is lexicalized on its own, and [LE, Agr] feeds (37a):

(40)



The same applies if α contains Φ plus something else, for instance a proper name like *Bríd.* In this case α must explicitly be marked for feminine gender and singular number, in addition to the features pertaining to names (definiteness and the lexical information that makes *Bríd* different from *í* 'she'). No Vocabulary item obviously lexicalizes LE + *Bríd*, and the spell-out for the name lexicalizes all grammatical and lexical information of the complement DP:

(41) *Merger* LE+[Agr]+[... [sg] [f] ...]

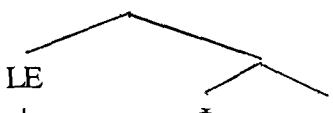
Fusion [LE, Agr] [... [sg] [f] ...]

Vocabulary /l'e/ /b'r'i:d'/

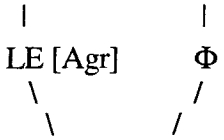
The only difference with the previous case is that the pronominal features contained in the DP complement provide a content for [Agr], at the stage where the features of LE, [Agr] and α are all visible to each other. But here pronominal features are discharged by the rule realizing α, so they are not discharged by any other affix: in particular, not by the rule that spells out [Agr] marked [f]. Note that, in both (40) and (41), the rule (35a) blocks (35b) for the lexicalization of [LE, Agr].

The last remaining case is (38a), where α = Φ. Given that each choice of Φ can be realized as a personal pronoun, one could expect the three Ms to regroup as [LE, Agr] (spelt out as the base form) + Φ (spelt out as a pronoun). What happens instead is that inflected forms arise: this is the so-called mutual exclusion effect, which immediately suggests that a realization rule is blocked by a more specific one (McCloskey and Hale 1986, Andrews 1990). In our framework, this intuition can be pursued rather naturally, without having to extend the concept of blocking to whole syntactic structures as opposed to terminal nodes (as in the LFG analysis proposed by Andrews (1990)). The key observation is that [Agr] and Φ stand in a particular relation to each other: the latter is an instantiation of the former, like LE is an instantiation of [P]. A visible Φ "identifies" [Agr]; to split the two only makes sense if the realization of Φ *must* be distinct from the realization of [Agr] on P. For instance, if Φ: [sg fem] is contained in D and the other features under D define the entry BRÍD (proper name), then Φ is necessarily fused with the other features under D (the proper name does not exist without Φ). But a personal pronoun is by definition a Φ which is not fused with anything else. Recall, now, that the three Ms LE, [Agr] and Φ are morphological abstract units, not positions of exponence (or morphemes, or affixes): therefore, the complex M including LE, [Agr] and a personal pronoun ends up having information of just two different kinds: about some lexical entry of category P (namely LE), and about pronominal agreement features. When Merger assembles LE [Agr] and a bare Φ, therefore, nothing prevents Φ from being read as a value for [Agr]—which is just what it should be:

(42) *Syntax*



Morphology I: addition of [Agr]



Morphology II: Merger

[LE [Agr:Φ]]

The units to lexicalize are in this case two, not three. The [Agr] slot has its own realization rules listed in (35) above, which apply for certain combinations of Φ. If this is the case, then LE is interpreted by (37b) and the whole complex M is a bimorphemic inflecting P, with a stem and a suffix. If Φ = [3 sg m], no rule in (35) can apply, but the Vocabulary can still provide the means to discharge all features, if LE and [Agr: Φ] are fused together. The realization rule (36) then maps a single M into the monomorphemic form /l'eʃ/, discharging the features of LE and of [Agr]. Unlike rule (37a), which derives the base form /l'e/, (36) discharges [Agr], instead of being merely conditional on its presence. This difference encodes the fact that the base form /l'e/ does not provide a lexicalization for a nominal argument (either because it has a separate realization or because there is none), while the form /l'eʃ/ effectively bleeds the realization of a pronominal argument with corresponding values.

To recapitulate, the Merger of LE [Agr] with its complement results in a complex morphological object interpreted as follows:

(43) a LE + [Agr] + Φ ---> LE + [Agr: Φ] (if Φ ≠ [3 sg m])

/l'-/	rules for suffixes
(37b)	(35)

b LE + [Agr] + Φ ---> [LE, Agr: Φ] (if Φ = [3 sg m])

/l'eʃ/
(36)

(44) LE + [Agr] + [... Φ ...] ---> [LE, Agr] + [... Φ ...]
| |
/l'e/ D ≠ personal pronoun
(37a)

(45) LE + [Agr] + [...] ---> [LE, Agr] + [...]
| |
/l'e/ first X° of nonfinite clause
(37a)

The concept of allomorphy as non-discharge of a feature is crucial for distinguishing the lexicalization of [LE, Agr] in (43b) from that in (44) and (45). The two rules are here repeated for convenience:

(36) LE: LE, Agr --> /l'eʃ/

(37) a LE: LE (Agr) --> /l'e/

Both rules realize a single M in which the input features LE and Agr are fused together. The two inputs are blind to the fact that the bundle [LE, Agr: Φ] contains more information than [LE, Agr]: (36) does not bleed (37a). Indeed, the formulation just given has the surprising consequence that the morphological component cannot choose which of the two rules should lexicalize an M containing LE and Agr features. The only difference concerns the discharging of Agr, which is only accomplished in (36); but once Agr is fused with LE, it becomes an inherent feature of LE, so that any realization of the latter is necessarily a realization of the former. In short, (36) only differs from (37a) in discharging Agr features, but Agr features need not be discharged. If anything, we would expect (37a) to systematically bleed the "superfluous" (36).

In fact, Agr features in a fused LE-Agr constituent need not be discharged *for the morphological well-formedness of this constituent.* But note that if LE takes a [3 sg m] pronoun as a complement, and this terminal is merged and eventually fused with LE, failure of discharging [3 sg m] under LE would mean that these features are irrecoverably lost, even though the morphological component has the way to avoid this result by using (36) instead of (37a). In other words, Agr need not be discharged

inside M; but it must be discharged somewhere (given the possibility to do it) if it is the only content of an interpreted syntactic terminal. The choice of (36) is thus determined by morphosyntactic reasons, that is, by the sum of morphological requirements of a complex structure, as opposed to those of a single M. Similarly, a fronted *do*-auxiliary in an English direct question only need to express agreement because of the morphosyntactic properties of the verbal Extended Projection, not of the auxiliary itself:

(32) Does Bob like porridge?

As far as the realization rules are concerned, AUX (or Tns, or AGR—they are all labels for syntactic heads) may appear as *do* or *does*, and V may appear as *like* or *likes*. What derives the correct pattern is some general principle determining how Vocabulary resources are employed in a complex structure. The following formulation was put forward in Acquaviva 1999:

(46) *Principle of Lexicalization*

a If the feature bundle F under the head X° is matched by a unit of autonomous morphology, then F is lexicalized under X°.

b A unit of autonomous morphology is any category (inflectional class, stem form, affix, ...) by reference to which morphological generalizations can be made (cf. Aronoff's (1994) notion of "morphome").

In (32), the features associated with interrogative force and those associated with pronominal agreement are all present under C (see the cited reference for discussion); since these features collectively provide an input for the realization of *does*, (46) enforces the lexicalization of C as *does*; agreement features are discharged by this lexicalization, and are not discharged again by the affixation of /-z/ to *like*. In (43b), the features of LE and those of [3 sg m] agreement are all present under P; rule (36) provides the means to discharge both by lexicalizing a single M; the rule obligatorily applies to P and discharges pronominal features which fill a distinct syntactic terminal.

The source of pronominal features is an argument DP in Irish (a pronoun), while it is an independently licensed Agr° head in English.

The difference between (36) and (37a) is subtle, but that is the way it should be in order to explain the particularly close relation between base form and [3 sg m] form of Irish inflecting Ps. We can now move on to consider this and other consequences of our analysis, beginning with parasitic inflection.

6. Results and consequences

6.1. Rule (10), here repeated, simply states that LE and TRÍ inflect for [3 sg m] in front of the article:

(10) {LE, TRI} --> [3 sg m] / ___ *an*

The context ___ *an NP* is one of those where the P should appear in its base form: it corresponds to (44) above, where LE and the abstract [Agr] are fused together and realized by a rule only discharging [LE]. We can now reinterpret (10) as addition of pronominal features to the abstract morphological structure, without stating that the relevant Ps must inflect for [3 sg m]. In fact, the bundle [3 sg m] never appears as input of a realization rule; the corresponding forms *leis* /l'eʃ/ and *tríd* /hri:d2/ are realized by rules like (36), which discharge the lexical features of P and [Agr] without further specification of values. (10) then amounts to saying that, in certain contexts, a representation that would not require Agr features to be discharged is turned into one where they must be discharged. Normally, two factors prevent their discharge: 1) the fact that [Agr] is an inherent feature of P in the fused constituent [P, Agr], and therefore does not need a separate realization; and 2) the fact that the lack of discharge of [Agr] is compatible with the morphosyntactic context, because either pronominal features are absent altogether from the complex M formed by P and its complement, or, when present, they are independently discharged on the DP complement of P. The rule responsible for parasitic inflection intervenes to modify the second of these two factors. Since linear adjacency is relevant, we must conclude that the rule applies after the fused [P, Agr] and [AN] have been linearized, just before Vocabulary insertion (stars represent linear adjacency):

(47) *[Agr] Epenthesis:*

{LE, TRÍ}: [P, Agr]*[AN] ---> [P, Agr]*[Agr]*[AN]

When the Vocabulary is consulted to realize the output of this lexically conditioned rule, it cannot realize [P, Agr] and [AN] as, respectively, the base form of P and *an*; there is one [Agr] too many, which would fail to be discharged by the rule realizing the base form of P. In order to ensure Vocabulary interpretability, the simple solution consists in realizing P by means of the rule that *discharges* Agr features: (36). Rule (10), then, shoud be replaced by (47) (and [AN] should become {[AN], [NA]} for the preposition LE, at least in those idiolects where the rule is triggered by the plural of the article as well as by the singular).

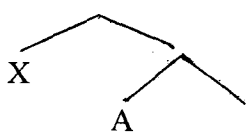
The single rule given in (47), obviously, must be put in the context of the global morphological analysis that has been proposed for prepositional (and, implicitly, verbal) inflection. One of the specific traits of this analysis is the reference to adjacency: a P is merged with the immediately following head of its complement (see (31) and (40)-(42)), and in (47) an [Agr] slot is inserted between [P, Agr] and the article. In the latter case, there is no reference to structure (that is the meaning of linear adjacency, as opposed to structural adjacency). Then we expect the epenthesis rule to apply regardless of whether the DP headed by the article is the complement of P. This prediction is borne out:

(48) Feicfidh mé leis [an t-alt seo a léamh]
see.FUT I with.3 sg m [the article here PRT read]
'I will try to read this article'.

In this example, as in (33)-(34) above, the P takes the whole bracketed phrase as complement; the definite DP *an t-alt seo* 'this article' must therefore fill a specifier in this constituent. Still, LE and the article are linearly adjacent; this suffices to trigger (47), as a result of which LE is realized as *leis* /l'eʃ/. I fail to see how this correct prediction could follow if prepositional inflection was analyzed as a "normal" instance of agreement conditioned by *syntactic* locality (specifier-head, or head-complement).

6.2. The complex morphological analysis I have been arguing for may seem disproportionate to the simple end of explaining parasitic inflection through rule (47). But (47) is accompanied by a number of other desirable consequences. We have already considered one case, namely (48), in which reference to adjacency has proven crucial. But as we know from (22c-d) above, sensitivity to linear adjacency more generally characterizes the whole Irish inflectional system:

(22)



c Whether or not X is inflected, it must be strictly adjacent to A.

d In case A is a coordinated phrase consisting of $A_1 \ldots A_n$, inflection on X is determined on the basis of A_1 alone.

Considerations of space preclude an illustration of adjacency effects on Vs and Ps (which would repeat the material introduced and discussed in McCloskey 1986). But there is no need to consider the details in order to realize that such adjacency effects are a straightforward consequence of the Merger of inflecting categories (V and P) with the following head. Crucially, this instance of Merger has not been motivated by properties of realized forms: neither by the presence of agreement affixes, nor by some sort of phonological weakness.[23] As a result, the clitic-phrase-like adjacency between V/P (without pronominal agreement affixes) and its overt DP argument is derived by the same Merger that also derives the sensitivity of V/P to the features of the first DP in a coordinated structure *[DP and DP]* (as in (22d)). The very same Merger also explains why the DP argument is realized by an inflectional suffix whenever Vocabulary makes a corresponding suffix available, namely, when DP is a pronoun consisting of a subset of {1, 2, pl, fem}. Besides, Merger is defined as an operation on a representation whose terminals are Ms, which in turn are morphologically interpreted syntactic heads Xs. Not surprisingly, therefore, the workings of Merger

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[23]. A (morpho)phonological explanation would be hard to sustain for verbs, which (unlike prepositions) are often polysyllabic.

parallel in many ways those of syntactic head-movement (especially in the complementarity between agreement suffixes and overt pronouns); but Merger is not *syntactic* movement, which explains its sensitivity to adjacency and the violation of the Coordinate Structure Constraint (see again (22d)).

In sum, the hypothesis of Merger of abstract morphological constituents provides a unified explanation for a number of phenomena that would remain unrelated if morphology was reduced to the morphotactics of overt affixes.

6.3. The realization rules here recapitulated in (49)-(50), and the conception of morphology they presuppose, also capture in a natural way some aspects of the paradigm that would otherwise be accidental.

(49) [Agr]P:

a	1 pl	-->	/N'/
b	2 pl	-->	/b'/
c	1	-->	/m/
d	2	-->	/t/
e	pl	-->	/b/
f	f	-->	/V/

(50) LE:

a	LE, Agr	-->	/l'eʃ/
b	LE (Agr)	-->	/l'e/
c	LE	-->	/l'-/

The two sets of rules distinguish exponents that are invariant across Ps from those whose input must specify a particular P; they correspond to, respectively, bi- and mono-morphemic forms. The correlation between monomorphemic forms and stem-specific forms would have been lost with different analyses. For example, a single set of rules as in (51) could generate the forms of (49)-(50) preserving the same ordering:

(51) LE:

a	1 pl	-->	/l'iN'/	
b	2 pl	-->	/l'ib'/	
c	1	-->	/l'um/	
d	2	-->	/l'æ:t/	
e	pl	-->	/l'o:b/	
f	f	-->	/l'e:/	
g	elsewhere	-->	/l'eʃ/	(discharges Agr)
h	elsewhere	-->	/l'e/	(does not discharge Agr)

But in (51) the mono- or bi-morphematic nature of the output Vocabulary items is entirely accidental, as is the invariant character of the endings in (51a-f).

Note, also, that rules which provide exponence for a choice of pronominal features (namely, (49) and (50a)) are a natural class in the system provided by (49)-(50), even though they do not coincide with rules for [Agr] suffixes. They all share the property of discharging Agr features. (50a) is particular in not specifying values for Agr, and correspondingly it is the only one which can appear in absence of a pronoun, in parasitic inflection.

Another welcome consequence of our analysis only becomes apparent when considering the paradigm of a preposition like *ar* 'on':[24]

(52)

1 sg	/orəm/
2 sg	/ort/
3 sg m	/er'/
3 sg f	/orə/
1 pl	/oriN'/

---

24. Notice the /-i:/ ending in the [2 pl], which contrasts with /-b'/ of other prepositions like *le*. The irregularity is only apparent: as is clear from the paradigms in De Bhaldraithe (1977: 141-144), from where the forms in (52) are taken, all bisyllabic [2 pl] forms end in /-i:/ and all monosyllabic ones end in /-b/. This subregularity suggests that allomorphy rules apply to endings as well as stems. But then the shape of the ending depends on the morphophonological context, not on the choice of a P stem. If so, the difference between /-i:/ and /-b/ does not contradict the claim that {1, 2, pl, fem} values have suffixes whose form does not vary with the choice of the stem.

2 pl /ori:/
3 pl /orəb/

base form: /er′/

Notice that the /er-/ - /or-/ alternation in the shape of the P stem. The former variant appears in the base and [3 sg m] form, which here coincide; the latter appears elsewhere. This happens to match the distinction between monomorphemic and bimorphemic forms. In our system, but not necessarily in others, the two stem forms correspond to two distinct rules:

(53) AR:

a AR, Agr --> /er′/
b AR --> /or- /

(53a) realizes the monomorphemic form, which in this case conflates base and [3 sg m] form (see directly below); and (53b) realizes the stem base to be combined with suffixes. This match between the stem rules required by my analysis and the stem allomorphy of AR seems hardly accidental.

6.4. As we have noted, the base form and the [3 sg m] form of a P often coincide, historically and cross-dialectally. The rule system in (49)-(50) is, at least, descriptively convenient in that the inputs of the two relevant rules are [P, (Agr)] for the base form and [P, Agr] for the form realizing [3 sg m]. The conflation of these two rules is a likely occurrence, given the similarity of their inputs. Specifically, the historical change leading to their conflation can be interpreted as loss of the distinction between non-feature discharging and feature-discharging exponence:

(54) [P, Agr] ---> X, [P (Agr)] ---> Y > [P, Agr] ---> X

Recall that Agr features fused in a single M with P features are inherently visible, so that any realization of P is automatically a realization of Agr. In these conditions, discharge of Agr is not necessary for the well-formedness of the fused M; but it may

be necessary for the well-formedness of the entire structure, namely, when Agr simply coincides with a pronominal DP argument (necessarily marked [3 sg m] in the syntactic representation, because all other combinations are interpreted by more specific rules). If that is the case, discharging of Agr features is obligatory on pain of losing the featural information corresponding to the pronoun. The fused M is then realized by a rule that discharges both P and Agr, which is written leftmost in (54). Now, if such a rule is independently necessary, historical change cannot simply drop it without also modifying the rest of the system. Not so for the other rule, however, which is conditional on the presence of Agr features without discharging them. In fact, the assumptions I am following state that the realization of a complex M [P, Agr] does not *need* to discharge Agr; not that it *cannot* discharge Agr. Discharge of Agr is merely redundant when Agr is fused with P, but not impossible on principled grounds. Our analysis thus makes it entirely expected (I would not say "predicts") that historical change could retain the Agr-discharging rule (which is necessary) but drop the non-discharging rule (only present to avoid a redundancy). The discharging / non-discharging distinction is thus lost by the loss of one rule, as schematized in (54).

Because of the similarity of the inputs for the rules realizing base and [3 sg m] forms, the difference between systems where the two forms are distinct and systems where they coincide is easily stated, and the historical development only requires a minimal rearrangement (loss of one rule). But notice that, granted this, our system *predicts* the direction of the change: if base and [3 sg m] forms coalesce, the single resulting form correspond to the latter, not the former. This is in fact what happened in the passage from Middle Irish to Early Modern Irish, down to the present dialects (cf. McManus 1994:435 and Williams 1994:462). The reason is that we have analyzed coalescence as loss of the rule which realizes [P, Agr] without discharging Agr (that is, loss of [P (Agr)] ---> Y in (54) above). Which of the two rules is lost is not stipulated, but follows from our theoretical hypotheses about feature discharge in fused M constituents. And, since the non-Agr-discharging rule that is lost is the input for the older base form, this is the form that disappears, and the older [3 sg m] will apply in the new system regardless of whether Agr features need or need not be discharged.

6.5. We are now in a better position to appreciate the advantages of a rule like (28) above over a statement to the effect that certain Ps have an intrinsic [Agr] characterization, but consist of a single M.

(28) [P] ---> [P] [Agr] (P ∈ {AG, AR, AS ... UM})

The only reason we have considered (in 5.1) was that an inherent marking [Agr] does not make the same sense as, say, [Agr: Person: pl] or [Agr: Gender: f]. However, in the course of the analysis I have proposed that the two Ms [P] and [Agr] may be fused into one in certain circumstances. So, if something like [LE_{Agr}] is required anyway, why not regard that as the lexical entry and drop the redundancy rule in (28)?

First of all, notice that it is often the case that inherent information is realized on a separate M. Intrinsically plural nouns must obviously be listed as such, because their number is not determined by the syntactic context; yet they are typically realized by the means of the same plural markers that realize [pl] in other nouns: the exponence of plurality in English *scissors*, Latin *nuptiae* 'wedding' and Italian *nozze* 'wedding' is no different than that of other nouns. In so far as a separate M, or slot, must be recognized for morphological number, these inherently plural nouns will be provided with this M too. In addition, granted that the suffix /-z/ discharges [pl] in English, *scissors* also gives us another example where an inherent feature of the stem is discharged, just as [Agr] was argued to be discharged by the base form of a P when this is identical with the [3 sg m]. In neither case is it necessary to discharge an inherent feature, but in both it is possible. In conclusion, the strategy described in (28) is a rather common one.

Secondly, a hypothetical lexical entry [LE_{Agr}] poses serious problems when it comes to the Vocabulary realization rules. I have distinguished in (50) three realizations for LE:

(50) LE:

a LE, Agr --> /l'eʃ/
b LE (Agr) --> /l'e/
c LE --> /l'- /

(50c) applies when [Agr] combines with a specific choice of agreement values Φ to form an input that can be lexicalized as a suffix. LE is then left alone, and this makes it possible to distinguish it from both (50a) and (50b). But if the the lexical entry is [LE_{Agr}], rather than [LE] to which [Agr] is added by rule, (50c) would never apply, because there would never exist a feature bundle containing LE but not [Agr]. Consequently, there would be no way to state the realization for the form to which suffixes are attached; and the bimorphemic forms would have to be described as monomorphemic, with the noted lack of generalization.

Finally, this is the place to discuss an important objection that could be raised against both [LE_{Agr}] or [LE] + [Agr]. No matter which representation is chosen for the P in isolation, the morphological analysis I have defended requires that at least one realization rule could spell it out; [Agr] can find a realization even without being merged with a following DP. But then, if [LE] + [Agr] is morphologically interpretable without any additional information, what need is there for Merger in the first place?

The importance of this question lies in the fact that the answer crucially depends on a very specific way to understand the workings of morphology in grammar. Merger is one of the operations that, in Distributed Morphology, manipulates an abstract structure preparing it for morphological interpretation; Vocabulary Insertion interprets this prepared and linearized structure in terms of the sound-meaning mappings available to the language. The existence of one such mapping (i.e. a realization rule) for the head M does not bleed M's being merged (or fused, or fissioned) with another M, however, because realization rules only bleed other realization rules. Consider the example that Noyer (1997) quotes from Marantz 1988:

(55) a Le porc-épic [de [le garçon]] --->
b Le porc-épic [[du] garçon]
'The boy's purcupine'.

When a syntactic structure with the bracketing indicated in (55a) is linearized, the terminals corresponding to P and D are fused together in a single morphological unit, even though both DE and LE admit of distinct, non-fused lexicalizations (*de* as in *de Marie*, *le* as in *le porc-épic*). In this case, rebracketing takes place after the structure has been linearized:

(56) ... DE*LE*GARÇON ...

Even though each of these three morphological constituents may be input to a realization rule, the morphological component can now see that the sequence DE*LE also matches an input (namely /dy/); in this case, rebracketing is obligatory, while in others it is optional (e.g. *he will* versus *he'll* in English).

If the existence of independent realization rules for French DE and LE does not block their fusion as /dy/, then the existence of a realization rule for LE [Agr] (crucially making reference to agreement features, but not to specified values) cannot block Merger of LE [Agr] with a structurally adjacent head. This in turn means that Merger, and other morphological operations, are not just driven by the need to spell out the abstract feature bundles they operate on. Rather, Merger, Fusion and Fission are ways to *maximize*, not *permit*, morphological interpretability by the Vocabulary (cf. Noyer's (1997:xxxi and 214-216) view that morphological operations over Ms are "Vocabulary-driven"). If the French article LE has the morphological property of being suffixed to the preposition DE (triggering allomorphy), Merger ensures that this morphological property finds an expression. If the Irish preposition LE [Agr] can be input to distinct, specific rules of exponence that vary with the choice of values for [Agr] features, then Merger is free to apply to make such values visible for morphological interpretation. This does not entail that LE [Agr] cannot feed any rule of exponence on its own, without any value for [Agr] being visible.

7. Conclusion

To summarize, the morpho-syntactic analysis developed in sections 4 and 5 offers a unified account for the following phenomena:

— lack of multiple exponence for pronominal agreement in V/P conjugation
— adjacency effects between inflecting V/P and "agreeing" DP
— correlation between monomorphemic and P-specific forms

— correlation between P stem allomorphy and bimorphemic structure
— parasitic prepositional inflection (as [Agr] epenthesis)
— identity between base and [3 sg m] forms of some Ps

The proposed account rests on the idea that there exists a domain of morphological analysis distinct from syntax but sharing with syntax the property of manipulating abstract information (feature bundles), as opposed to information of grammatical and phonological nature (affixes). This separationist approach has been pursued within the framework of Distributed Morphology, following in particular Noyer's (1997) view of allomorphy. Thanks to his distinction between feature-discharging and feature-conditioned (or allomorphic) exponence, I have been able to analyze the exponence of agreement in Irish Ps in terms of realization of an abstract [Agr] slot; this, in turn, has afforded a simple and historically plausible analysis of parasitic inflection, in such a way that what looked like a minor puzzle in the Irish conjugation was solved by explaining the whole conjugational system.

In order to achieve these empirical results, I have argued that the analytic tools of Distributed Morphology should be integrated by a particular conception of the syntax-morphology interface. In particular, I have claimed that the morphological interpretation of an inflecting lexical head X can refer to features present under a terminal $Y \neq X$, provided Y is within the Extended Projection of X. Normally, this means that X can inflect for feature F if F is "visible" and, obviously, if the morphological resources permit (or force) inflectional information to be realized on X. Irish is unusual because morphology demands pronominal agreement on finite Vs and certain Ps, but no such information is visible because there is no Agr°. This tension is resolved thanks to the (independently justified) operations of Merger and Fusion, which reorganize the relevant syntactic terminals so as to respect morphological well-formedness conditions and to maximize interpretability by the Vocabulary.

This view implies that morphological information should be accessible in syntactic domains larger than a head, but it does not require a separate dimension of Functional Structure as in Lexical Functional Grammar. As is apparent, this in itself is not an argument against Lexical Functional Grammar, nor is my use of an item-and-arrangement model of morphology a compelling argument against paradigm-based approaches. What the analysis does show, however, is that we can get to know and to "explain" more than we did about the Irish conjugation by using the machinery of Distributed Morphology without enriching it, once we try to clarify the relation

between syntax and morphology—an independent desideratum for any theory of syntax, morphology, or both.

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ITALIAN EMPHATIC PRONOUNS ARE POSTVERBAL SUBJECTS*

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1. INTRODUCTION

In his discussion of Italian postverbal subjects, as in sentences like (1a), Burzio (1986) also analyses postverbal pronouns co-occurring with preverbal subjects, as in (1b) (see in particular his sections 2.3 and 2.4):

(1) a. Interviene Giovanni.
intervenes Giovanni
b. Giovanni interviene lui.
Giovanni intervenes he

Burzio takes *lui* in (1b) to be an "emphatic" pronoun, i.e., an anaphoric element coreferential with the preverbal thematic subject *Giovanni*.

Since Burzio does not link the subject doubling in (1b) to the pro-drop parameter, it is surprising that the same possibility does not exist in e.g. English: **John will intervene he*.

The aim of this paper is to show that (1b) is not an instance of doubling, but an instance of subject "inversion" on a par with (1a). *Lui* in (1b) is not an emphatic pronoun, but a postverbal, thematic subject on a par with the DP *Giovanni* in (1a) (something special then needs to be said about the preverbal DP in (1b)). This analysis answers the question raised by the comparative observation above. A Non-Null-Subject language like English, which does not allow postverbal subjects, does

*. Many thanks to Adriana Belletti for comments on a previous version of the paper.

not display any counterpart to (1b).

So-called emphatic pronouns also occur in infinitival clauses (cf. *Giovanni ha deciso di intervenire lui* "Giovanni has decided to intervene he"). Here, subject pronouns must be taken to be the only instance of overt subjects in Italian infinitival clauses. They occupy a "Middle-field" subject position which is otherwise never used in Italian (but it is productive in some Southern Italian dialects and in Spanish). For Case-theoretic reasons, pronouns are the only overt subjects allowed in this context in Italian. This is another postverbal subject position restricted to Null-Subject languages, and expectedly English lacks this possibility, too. Personal pronouns are also ungrammatical in infinitival clauses: **John decided to intervene he.*

In Italian, only those pronouns which are modified by the anaphoric element *stesso* (self) are "emphatic" in Burzio's sense: *Giovanni interverrà lui stesso.* In this respect, Italian is not different from languages like English, which makes use of the anaphor *himself* as an emphatic element: *John will intervene himself.*

The paper is organized as follows. In section 2, Burzio's discussion of emphatic pronouns is reported. Some facts problematic for his analysis are pointed out, which will be the starting point of the present discussion. In section 3, the proposal is made that *lui* in (1b) is a postverbal subject pronoun. Section 4 presents new empirical evidence to support this proposal. An apparent counterexample is discussed in section 5, which turns out to contain an adverbial-like instance of personal pronouns. Section 6 is devoted to overt subjects in infinitival clauses. Section 7 concludes the discussion by comparing postverbal subjects with pronouns modified by *stesso*, the only instance of true emphatic elements found in Italian.

2. BURZIO'S ANALYSIS

2.1. Emphatic pronouns in trace positions

Burzio's analysis of sentences like (1b) builds on his unaccusative hypothesis: *lui* occupies the object position left empty by the DP *Giovanni* raised to specIP. A parallelism is thus established between the trace in (2a) and the emphatic pronoun in (2b):

(2) a. [$_{IP}$ Giovanni$_i$ interviene t_i].
b. [$_{IP}$ Giovanni interviene lui].

The similarity of emphatic pronouns and traces is not only distributional, but also functional. Burzio (1986:110) suggests that emphatic pronouns must be regarded as anaphors. The relation between the subject and the emphatic pronoun is local, similarly to the relation between a moved subject and its trace. In the following sentence, the emphatic pronoun must be the feminine pronoun *lei*, related to the embedded subject PRO controlled by *Maria*, and cannot be the masculine pronoun *lui* related to the matrix null subject:

(3) Persuase Maria [a PRO intervenire *lui / lei a risolvere il problema].
[he] persuaded Maria to intervene he / she to solve the problem

Burzio (1986:112) thus assumes that a binding relation exists between the preverbal subject and the postverbal emphatic pronoun.

2.2. Emphatic pronouns in non-trace positions

The hypothesis that emphatic pronouns occur in trace positions can be questioned in both directions.

As Burzio (1986:112) notes, emphatic pronouns are also possible with transitive and intransitive verbs, whose subjects are not raised from the object position:

(4) a. Esaminerà Giovanni il caso.
will-examine Giovanni the case
b. Giovanni esaminerà lui il caso.
Giovanni will-examine he the case

(5) a. Ha telefonato Giovanni.
telephoned Giovanni
b. Giovanni ha telefonato lui.
Giovanni has telephoned he

With transitive and intransitive verbs, emphatic pronouns must be taken to be inserted in VP-adjoined position, where postverbal external subjects are taken to occur (cf. also Rizzi 1982).[1] In this way, the parallelism of emphatic pronouns with traces breaks down, but the parallelism with postverbal subjects becomes rather general (see section 3.1 below).

The parallelism between traces and emphatic pronouns also breaks down in the complement to raising verbs, both in full and small clauses. Emphatic pronouns cannot occur in the position of the trace of a raised subject (from Burzio 1986:116-118):

(6) a. Giovanni sembrava [t_i conoscere la strada].
b. *Giovanni sembrava [lui conoscere la strada].
Giovanni seemed (he) [to] know the way

(7) a. Giovanni sembrava [t_i ammalato].
b. ??Giovanni sembrava [lui ammalato].
Giovanni seemed (he) sick

The contrast in (6) and (7) is unexpected and particularly problematic for the above hypothesis, as noted by Burzio himself. In order to accomodate these facts, Burzio (1986:119) explores a Case-theoretic solution: emphatic pronouns are assigned nominative Case under government by a verb. In (6b), Case-assignment cannot take

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[1]. In Rizzi's (1982) and Burzio's (1986) framework, preverbal external subjects are generated in specIP. Notice that the relation between the emphatic pronoun and the DP it is related to is local also with transitive and intransitive verbs:

(i) a. Persuase Maria [a PRO esaminare *lui / lei il caso].
[he] persuaded Maria to examine he / she the case
b. Persuase Maria [a PRO telefonare *lui / lei a Giovanni].
[he] persuaded Maria to telephone he / she to Giovanni

In (i), locality cannot be a consequence of (local) movement, but must depend on the binding relation (Principle A) established between the preverbal subject and the emphatic pronoun, which is functionally an anaphor.

place because of the intervening clause boundaries, and *lui* fails to receive Case. In (7b), however, the result should be perfect. Although (7b) is slightly better than (6b), it is surprisingly not fully grammatical. For this reason and, more particularly, for the reason that this solution, he admits, is "incompatible with the rest of our discussion", Burzio abandons it and leaves (6) and (7) "unsolved".

The aim of this paper is to provide a new analysis of so-called emphatic pronouns, which accounts for all the cases discussed by Burzio, thus also solving the "unsolved" cases in (6) and (7).

3. SO-CALLED EMPHATIC PRONOUNS AS POSTVERBAL SUBJECTS

3.1. So-called emphatic pronouns have the same distribution as postverbal subjects

Burzio observes more than once that emphatic pronouns occur in the same position as postverbal subjects. However, he does not conclude that subject doubling and inversion are one and the same syntactic phenomenon and assimilates emphatic pronouns to subject traces, in spite of the problems pointed out above. Burzio's conclusion is due to the fact that there is one context in which postverbal subjects and emphatic pronouns behave differently. In infinitival sentences, pronouns are allowed but full DPs are ruled out (from Burzio 1986:104-105):

(8) a. ?*Sperava [di intervenire Giovanni [a risolvere il problema]].
hoped to intervene Giovanni to solve the problem

b. Sperava [di intervenire lui [a risolvere il problema]].
hoped to intervene he to solve the problem

My starting point is to abandon the hypothesis that so-called emphatic pronouns occur in trace positions, and to propose that so-called emphatic pronouns have the same distribution as postverbal subjects (the same proposal is made by Solà (1992) and Belletti (1998:6)).[2] The discussion of infinitival clauses and of the

[2]. In this paper, I take the view that postverbal subjects are VP-internal, i.e., they do not move out of the (leftward) specVP where they are generated; their postverbal position arises from the fact that the verb is moved across the subject (cf. Ordóñez 1998, Cardinaletti 1998). However, the proposal made

contrast in (8) is postponed to section 6 below, where I arrive at the conclusion that sentences like (8b) instantiate a construction different from finite clauses with postverbal subject pronouns.

This proposal accounts for all the facts presented so far. Further evidence is provided in (9)-(12). Emphatic pronouns undergo the same distributional restrictions as postverbal subjects. They can precede an embedded clause only with unaccusative verbs, (9b), where subjects occur in the basic object position (cf. (9a)), but they are not allowed with transitive verbs, (10b), where subjects cannot precede the object (cf. (10a)). Furthermore, the occurrence of both full subjects and emphatic pronouns in postverbal position is restricted to non-restructuring contexts, as shown by the contrast between (11) and (12) (examples from Burzio 1986:111):[3]

(9) a. Interverrà Giovanni [a risolvere il problema].
will-intervene Giovanni to solve the problem
b. Giovanni interverrà lui [a risolvere il problema].
Giovanni will-intervene he to solve the problem

(10) a. ??Sperava Giovanni [di risolvere il problema].
hoped Giovanni to solve the problem

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in this paper does not hinge on whatever analysis will turn out to be the correct one for postverbal subjects. In particular, if postverbal subjects are moved overtly to the specifier of a Focus position (cf. Ordóñez 1997, Belletti 1998), this should be true for postverbal subject pronouns as well.

[3]. More precisely, in restructuring contexts postverbal subject DPs and so-called emphatic pronouns must follow the infinitival clause:

(i) a. Lo viene [a prendere] Giovanni.
it comes to fetch Giovanni
b. Giovanni lo viene [a prendere] lui.
Giovanni it comes to fetch he

Once again, postverbal subjects and so-called emphatic pronouns behave in a parallel way.

b. ??Giovanni sperava lui [di risolvere il problema].
Giovanni hoped he to solve the problem

(11) a. Viene Giovanni [a prenderlo].
comes Giovanni to fetch-it
b. Giovanni viene lui [a prenderlo].
Giovanni comes he to fetch-it

(12) a. *Lo viene Giovanni [a prendere].
it comes Giovanni to fetch
b. *Giovanni lo viene lui [a prendere].
Giovanni it comes he to fetch

Further evidence that so-called emphatic pronouns have the same distribution as postverbal subjects comes from the observation, due to Solà (1992:59) for Catalan, that the two cannot co-occur in postverbal position, in either order. This follows if they occupy one and the same position:

(13) a. *Interviene Giovanni lui.
b. *Interviene lui Giovanni.
intervenes Giovanni he

3.2. So-called emphatic pronouns ARE postverbal subjects

The second claim of the analysis proposed here is to strengthen the distributional observations made above: emphatic pronouns pattern with postverbal subjects not just because they occupy the same position as postverbal subjects, but because emphatic pronouns ARE postverbal subjects. Sentences like (1b) are not instances of subject doubling, but instances of subject inversion. In thematic terms, so-called emphatic pronouns are arguments.

If the pronoun in postverbal position is the thematic subject of the clause, the preverbal full subject cannot be argumental. The analysis of e.g. (1b) is the following, where the DP *Giovanni* occupies a sentence-peripheral position, presumably TopicP, while the canonical subject position is filled with expletive

pro:[4]

(14) $[_{TopicP}$ Giovanni $[_{IP}$ pro_{expl} viene lui]].

The sentence-peripheral DP behaves like a left-dislocated subject in that it can precede or follow a left-dislocated object:

(15) a. Giovanni il convegno lo aprirà lui.
Giovann, the conference it will-open he

b. Il convegno Giovanni lo aprirà lui.
the conference Giovanni it will-open he

c. Giovanni a se stesso ci pensa lui.
Giovanni to himself there thinks he

d. A se stesso Giovanni ci pensa lui.
to himself Giovanni there thinks he

Notice that if so-called emphatic pronouns are thematic subjects, the problem raised by (6) and (7) dissolves (at least in the formulation above). A subject pronoun cannot occur in the subject position of the infinitival complement of *sembrare* for the same reason a DP cannot occur in that position. The illicit distribution of the

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[4]. The present proposal differs from Belletti's (1998), (1999) proposal. She takes emphatic pronouns to double DPs in doubling structures of the type illustrated in (i) and the derivation to proceed as in (ii): the emphatic pronoun moves from specDP to the low specFocusP above VP (cf. fn. 2), and the DP moves to the preverbal subject position:

(i) $[_{DP}$ lui $[\ldots [_{DP}$ Giovanni]]]

(ii) $[_{IP}$ $[_{DP}$ Giovanni$]_k$ interviene$_v$ $[_{FocusP}$ lui$_i$ $[_{VP}$ t_v $[_{DP}$ t_i t_k]]]]

If this analysis if adopted, the data in section 4 below cannot be interpreted unitarily as ungrammatical attempts to put the DP in left-peripheral position. Their ungrammaticality must be found elsewhere.

In the rest of the paper, I will not discuss this possibility any further and use the term "doubling" in (my understanding of) Burzio's (1986) sense, i.e., as indicating that the emphatic pronoun is generated as a constituent independently on the preverbal subject.

subject pronoun in (6) and (7) can in fact be observed with subject DPs as well (from Burzio 1986:116,118):

(16) a. *Sembrava [Giovanni conoscere la strada].
seemed Giovanni [to] know the way
b. ?*Sembrava [Giovanni ammalato].
seemed Giovanni sick

3.3. Null subjects

Consider (17), where an emphatic pronoun co-occurs with a preverbal null subject:

(17) Viene lui.
comes he

According to Burzio (1986:114), (17) is "ambiguously a case of inversion or of doubling". In the former analysis, depicted in (18a), *lui* is the postverbal subject, which bears the θ-role, and the preverbal subject position is filled with an expletive *pro*; in the latter, (18b), *lui* is an emphatic pronoun which doubles the preverbal argumental *pro*:

(18) a. $[_{IP}\ pro_{expl}$ viene lui].
b. $[_{IP}\ pro_{arg}$ viene lui].

In the present analysis, (18b) is excluded from being a grammatical possibility. The derivation which produces (18b) violates θ-theory. I conclude that (17) only has the analysis in (18a).[5]

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[5]. Interestingly, Burzio (1986:171,fn.39) observes that "the ambiguity [of sentences such as (17)] may only be theoretical however since speakers seem to have no intuition that such cases are ambiguous".

4. SOME NEW EMPIRICAL FACTS

The proposal presented in section 3.2 not only accounts for all the facts discussed by Burzio, but also for some new facts, unexpected under Burzio's original analysis. The evidence concerns properties of both the subject pronoun itself and the preverbal DP it co-occurs with.

4.1. On the focus properties of so-called emphatic pronouns

The first observation concerns the interpretation of so-called emphatic pronouns. They seem to do more than just providing emphasis. They have the same focus properties as Italian postverbal subjects.[6] Sentences with emphatic pronouns are incompatible with focus on constituents different from the emphatic pronoun itself. Consider (19b), where the contrasted object is *in situ*, and (20), where the object is moved to the sentence-initial focus position (cf. Rizzi 1997):[7]

(19) a. Il Rettore aprirà LUI il convegno, non il suo rappresentante.
the Dean will-open he the conference, not his delegate

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[6]. Solà (1992:58; 69,fn.29) hints at the possibility that emphatic pronouns have a "Focus" interpretation, but he does not develop this idea.

[7]. Sentence (19b) sounds ungrammatical to me even in the context provided by Adriana Belletti (p.c.):

(i) A: Il rettore ha detto che la seduta la aprirà lui.
the Dean has said that the meeting it-will-open he
B: *No no, il rettore (ha detto che) aprirà lui IL CONVEGNO, non la seduta.
no, no, the Dean (has said that) will-open he the conference, not the meeting

In the grammatical reply to A, the pronoun *lui* must be omitted, as in (ii):

(ii) A: Il rettore ha detto che la seduta la aprirà lui.
the Dean has said that the meeting it-will-open he
B: No no, il rettore (ha detto che) aprirà IL CONVEGNO, non la seduta.
no, no, the Dean (has said that) will-open he the conference, not the meeting

b. *Il Rettore aprirà lui IL CONVEGNO, non la seduta.
the Dean will-open he the conference, not the meeting

(20) a. *Giovanni QUESTO ha fatto lui.
Giovanni this has made he
b. *QUESTO Giovanni ha fatto lui.
this Giovanni has done he

The ungrammaticality of (19b) and (20) follows straightforwardly if *lui* is a postverbal subject, which is necessarily focused in Italian, and if two foci are banned from one and the same clause. It would be more difficult to account for (19b) and (20) if *lui* were an emphatic pronoun doubling the DP in preverbal subject position.

An observation to the same point concerns the properties of the material that follows the postverbal pronoun. The object constituent *il caso*, which follows the pronoun *lui* in (4b), has the same properties as the object constituent *il caso* which follows the postverbal subject *Giovanni* in (4a): in both cases, the object is destressed (the same holds for the object constituent *il convegno* in (19a)). Italian postverbal subjects are always followed by destressed constituents (cf. Cardinaletti 1998). Although the reason of this restriction in Italian is not fully comprehended (but see section 6 below), the parallel behaviour of pronouns and DPs reinforces the proposal that so-called emphatic pronouns are instances of postverbal subjects.[8]

Like focused subject DPs, subject pronouns may enter an alternative word order: they may follow the object, giving rise to the typical VOS order of Italian:[9]

(21) a. Esaminerà il caso Giovanni.
will-examine the case Giovanni

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[8]. Spanish differs from Italian in that postverbal subjects can be followed by focused material (see (43) in the text below). Cf. Ordóñez (1997), (1998) for the discussion of the properties of Spanish postverbal subjects.

[9]. These considerations on word-order have cross-linguistic validity: so-called emphatic pronouns occur in the postverbal subject position available in the language. Catalan behaves like Italian in having VOS, while VSO necessarily contains a destressed object; Romanian only has VSO; Spanish has both VSO and VOS (cf. Solà 1992:58,fn.13; 78).

b. Giovanni esaminerà il caso lui.
Giovanni will-examine the case he
c. Aprirà il convegno il Rettore.
will-open the conference the Dean
d. Il Rettore aprirà il convegno lui.
the Dean will-open the conference he

So-called emphatic pronouns are also excluded if the subject itself is focused:

(22) a. *GIOVANNI interverrà lui.
Giovanni will-intervene he
b. *E' GIOVANNI che interverrà lui.
[it] is Giovanni that will-intervene he

Under the hypothesis that emphatic pronouns double the DP subject and are inserted in its trace position, (22) is again an unexpected state of affairs. Under the present proposal, (22) is a θ-theory violation. Two DPs compete for the same θ-role, i.e., the subject DP *Giovanni* moved to the preverbal focus position and to the cleft position, respectively, and the postverbal subject pronoun *lui*.

4.2. The incompatibility with some preverbal DPs

Non-referential DPs such as quantifiers and *wh*-phrases, as in (23), and the weak pronoun *egli* in (24) (cf. Cardinaletti 1997a) are ungrammatical with so-called emphatic pronouns:

(23) a. *Nessuno è venuto lui.
nobody has come he
b. *Qualcuno è venuto lui.
somebody has come he
c. *Chi è venuto lui?
who has come he?

(24) *Egli interverrà lui.
he will-intervene he

Given the hypothesis above, (23) and (24) are ungrammatical because non-referential DPs and the weak pronoun *egli* cannot occur in sentence-peripheral position. This restriction is illustrated in (25), where they precede the left-dislocated object *Maria*:

(25) a. *Nessuno Maria (non) l'ha invitata.
nobody Maria [he] (not) her has invited
b. *Qualcuno Maria l'ha invitata.
somebody Maria [he] her has invited
c. *Chi Maria l'ha invitata?
who Maria [he] her has invited?
d. *Egli Maria (non) l'ha invitata.
he Maria [he] (not) her has invited

If the preverbal subjects of (23) and (24) were ordinary subjects doubled by an emphatic pronoun, it would be hard to account for the ungrammaticality of these sentences. (24) is a particularly interesting case. Under Burzio's analysis, it would be parallel to (17) in the analysis (18b). Since (17) is grammatical, (24) is surprisingly ungrammatical. Notice that the reason of the ungrammaticality of (24) cannot be a constraint banning the co-occurrence of two pronouns or banning the focalization of *egli*. These constraints should apply to *pro* in (18b) as well, since *egli* and *pro* belong to the same grammatical class, the class of weak pronouns (cf. Cardinaletti and Starke 1999). Whatever reason prevents *egli* from co-occurring with an emphatic pronoun should also prevent *pro* from doing the same, but only (24) is ungrammatical, while (17) is a good sentence. As said above, in the present proposal (24) is ruled out because *egli* cannot be left-peripheral.[10]

Notice also that the sentence *Lui interverrà lui* "he will-intervene he", displaying a strong pronoun in preverbal position, is perhaps redundant, but not

[10]. Since *pro* cannot be left-peripheral either, (i) is another impossible analysis of (17):

(i) *pro $[_{IP}$ pro_{expl} viene lui].

ungrammatical. This is not surprising: strong pronouns can occur in left-peripheral position. Compare (25) with *Lui Maria l'ha invitata* "he Maria [he] her has invited".

4.3. Complementizer Deletion and Aux-to-Comp

A third new empirical observation is that emphatic pronouns are ungrammatical in contexts which exclude sentence-peripheral subjects. Two such contexts are Complementizer Deletion and Aux-to-Comp constructions (cf. Cardinaletti 1997a):

(26) a. *Credo Gianni intervenga lui.
[I] think Gianni intervene-SUBJ he
b. *Essendo Gianni intervenuto lui, ...
being Gianni intervened he, ...

The ungrammaticality of (26) follows immediately under the present proposal. It is due to the fact that the preverbal DP *Gianni* cannot be sentence-peripheral. If it occurs sentence-internally, a θ-theory violation arises. Once again, it is hard to think of a constraint to the effect of banning emphatic pronouns from Complementizer Deletion and Aux-to-Comp constructions.

Notice that these sentences are possible both with preverbal and postverbal subjects. The subject can be either a DP or a pronoun, as usual:

(27) a. Credo Gianni / lui intervenga.
b. Credo intervenga Gianni / lui.

(28) a. Essendo Gianni / lui intervenuto, ...
b. Essendo intervenuto Gianni / lui, ...

Following my discussion of (18), the postverbal pronouns in (27b) and (28b) are not instances of emphatic pronouns doubling a preverbal null subject, but thematic subjects on a par with the full DP *Gianni* with the same distribution. In (27b) and (28b) the preverbal position is occupied by expletive *pro*.

4.4. Small clauses

Consider small clauses. They are possible both with pre-predicate and post-predicate subjects, the subject being a DP or a pronoun:

(29) a. Ritengo [Gianni / lui intelligente].
[I] consider Gianni / he intelligent
b. Ritengo [intelligente Gianni / lui].
[I] consider intelligent Gianni / he

Like Complementizer-Deletion and Aux-to-Comp constructions, small clauses do not allow left-dislocated elements: cf. **Ritengo [a Gianni Maria fedele]* derived from *Ritengo [Maria fedele a Gianni]* "[I] consider Maria faithful to Gianni". The fulfilled prediction is that post-predicate pronouns cannot co-occur with pre-predicate DPs:

(30) *Ritengo [Gianni intelligente lui].
[I] consider Gianni intelligent he

The ungrammaticality of (30) is thus due to the wrong placement of the pre-predicate DP *Gianni*. It cannot occur in a clause-peripheral position. The alternative analysis, where *Gianni* occupies a position internal to the small clause, represents a violation of θ-theory since two DPs, *Gianni* and *lui*, compete for one and the same θ-role.[11]

Notice that this is another context where so-called emphatic pronouns do not share the same distribution as subject traces (cf. section 2.2 above). (30), repeated as (31b), contrasts with (31a): *lui* cannot occur in the position of the trace of the raised

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[11]. Notice that under no theory could the post-adjectival pronoun in (29b) be analysed as an emphatic pronoun doubling a null subject. Referential null subjects are impossible in small clauses:

(i) *Ritengo [pro intelligente].
[I] consider [him] intelligent

For the ungrammaticality of referential null subjects in small clauses, cf. Rizzi (1986) and Cardinaletti and Guasti (1991).

small clause subject:[12]

(31) a. Ritengo [Gianni$_i$ intelligente t_i].
[I] consider Gianni intelligent
b. *Ritengo [Gianni intelligente lui].
[I] consider Gianni intelligent he

Under the trace-analysis of so-called emphatic pronouns, the ungrammaticality of (30) would be at least surprising. The more so since other languages display emphatic elements in post-predicate position. Consider the following English example (from Solà 1992:172):

(32) They consider [Bill stupid himself].

Since true emphatic pronouns are elements left floating by the raised subject DP (cf. section 7 below), they can appear in the post-predicate position of small clauses.

4.5. A typological observation

The present proposal also allows us to make sense of a typological generalisation by Solà (1992). He arrives at the conclusion that Null Subject and Non-Null Subject languages have categorially different emphatic pronouns: the former languages have emphatic pronominals, the latter have emphatic anaphors.[13]

Given what will be concluded in section 7 below, Solà's generalisation

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[12]. I take the subject of the small clause to raise from the base position (i.e., the specifier of the adjectival head) to a functional position inside the small clause (cf. Cardinaletti and Guasti 1991, 1995). The small clause predicate raises as well, as shown in sentences like (29b), where it ends up in a position which precedes the *in situ* subject.

[13]. In this respect, Solà's proposal differs from Burzio's (1986:110) proposal that Italian emphatic pronouns, although formally pronominals, must be regarded as anaphors.
Solà's generalisation is based on the following Null-Subject languages: Basque, Catalan, Greek, Italian, Occitan, Portuguese, Rumanian, and Spanish, and on the following Non-Null-Subject languages: Danish, English, French, German, Icelandic, Swedish, and West Flemish.

should be partly rephrased. Both types of languages have emphatic anaphors, while only Null-Subject languages have emphatic pronouns.

This generalisation follows straightforwardly from the proposal defended here that the so-called emphatic pronouns of Null-Subject languages are personal pronouns occurring in postverbal subject position. Since Non-Null-Subject languages do not have postverbal subjects, subject pronouns are not found in postverbal position.

The conclusion that postverbal subject pronouns occurring in finite clauses are instances of postverbal subjects and not of emphatic pronouns has the theoretical advantage of not stipulating a further difference between Null-Subject languages and Non-Null-Subject languages.[14]

5. AN APPARENT COUNTEREXAMPLE

A potential counterexample to the present analysis is provided by the following Italian sentence, built on a Catalan sentence discussed by Solà (1992:147) (*Els nois s'han fet tots el llit ells*):

(33) I ragazzi si sono fatti tutti il letto loro.
the children SI *are made all the bed themselves*
"The boys have all made their bed themselves"

Loro in (33) cannot be a postverbal subject pronoun because floating quantifiers cannot co-occur with postverbal subjects (as pointed out by Rizzi 1987):[15]

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[14]. Solà (1992:125) derives his generalisation by assuming different case-assignment properties in the two types of languages (±case-assignment to the postverbal subject position). This analysis cannot be accepted here. Cf. Cardinaletti (1997a) for discussion.

[15]. Sentence (34b) is grammatical if it is considered to be the counterpart of (33) with a null subject instead of *i ragazzi*. In order to exclude this interpretation and to force the postverbal subject interpretation of *loro*, a modifier can be added to the subject pronoun *loro*, as in (i):

(34) a. *Si sono fatti tutti il letto i ragazzi.
SI are made all the bed the children
b. *Si sono fatti tutti il letto loro.
SI are made all the bed they

Is *loro* in (33) an emphatic pronoun? The answer seems to be negative. *Loro* in (33) must be considered as an adverbial-like pronoun meaning "da soli" (by themselves, with no help). This usage of the pronoun *loro* is incompatible with stative predicates, which do not designate an activity. With these predicates, it cannot be claimed whether the event designated by the verb is performed by themselves or with somebody's help:

(35) a. *I ragazzi amano tutti la musica loro.
the children love all the music themselves
b. *I ragazzi si rassomigliano tutti loro.
the children SI resemble all themselves

No such restriction is found with the postverbal subject pronouns discussed in the previous sections, which expectedly are compatible with any type of predicate:

(36) a. (I ragazzi) amano la musica loro.
the children love the music they
b. (I ragazzi) si rassomigliano loro.
the children SI resemble they

In conclusion, since *loro* in (33) cannot be considered an emphatic pronoun, (33) is not a counterexample to the claim that in Italian so-called emphatic pronouns are postverbal subjects.

(i) *Si sono fatti tutti il letto solo loro.
SI are made all the bed only they

6. POSTVERBAL SUBJECT PRONOUNS IN INFINITIVAL CLAUSES

I now turn to infinitival clauses, where, as pointed out in section 3.1 above, full DPs are ungrammatical but pronouns are possible. Consider the following contrasts, taken from Burzio (1986:104, 105, 114):[16]

(37) a. ?*Sperava [di intervenire Giovanni [a risolvere il problema]]. (=8)
hoped to intervene Giovanni to solve the problem

b. Sperava [di intervenire lui [a risolvere il problema]].
hoped to intervene he to solve the problem

(38) a. *[Andarci Giovanni] sarebbe un errore.
go-there Giovanni would-be a mistake

b. [Andarci noi] sarebbe un errore.
go-there we would-be a mistake

6.1. A Case-theoretic account

Following Burzio (1986:114), I interpret the ungrammaticality of (37a) and (38a) in Case-theoretic terms. Since infinitival clauses are not a context of Nominative Case checking, full DPs are excluded. But why are pronouns in (37b) and (38b) ruled in? As in (37a) and (38a), no Case is checked by the subject pronouns in (37b) and (38b). A confirmation comes from the ungrammaticality of the weak pronoun *egli* in this context. Under the hypothesis that weak pronouns must be Case-licensed in overt syntax (cf. Cardinaletti and Starke 1999), (39) represents a Case-theory violation:

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[16]. This asymmetric behaviour is true of subjects internal to the infinitival clause, as in (37) and (38), where the presence of a post-subject object guarantees that the subject is clause-internal. No asymmetry is found when the subject occurs after the infinitival clause as a postverbal subject of the matrix predicate:

(i) a. Sperava [di intervenire (a risolvere il problema)] Giovanni.
hoped to intervene (to solve the problem) Giovanni

b. Sperava [di intervenire (a risolvere il problema)] lui.
hoped to intervene (to solve the problem) he

(39) *Sperava [di intervenire egli [a risolvere il problema]].
hoped to intervene he to solve the problem

Burzio (1986:114) suggests that the pronouns in (37b) and (38b) can survive in infinitival clauses because, being emphatic, they are non-argumental, hence they do not need to be Case-marked (in this respect they seem to differ from emphatic pronouns in finite clauses, whose Case is a property of the chain built with the preverbal subject, cf. Burzio (1986:119)).

I follow the spirit of Burzio's Case-theoretic account, not the details though. Differently from Burzio, I do not take these pronouns to be "emphatic" and non-argumental, doubling the argumental subject PRO. Rather I take them to be the thematic subject of the infinitival clause, themselves controlled by the matrix subject. They represent the only instance of overt subjects in Italian infinitives.[17]

Contrary to DPs, pronouns can survive in infinitival clauses because they are intrinsically Case-marked. The notion of intrinsic Case-marking can be formalised by suggesting that pronouns can check their Case feature DP-internally. Under the hypothesis that noun phrases have essentially the same structure as clauses and their highest projection is CP, which contains Case features (cf. Cardinaletti and Starke 1999:Section 5.2), I suggest that NP or DP moves to specCP to check Case. Thus, the difference between DPs and pronouns is that the latter but not the former allow DP-internal Case checking and can thus survive in contexts where DP-external Case checking does not take place.

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[17]. Since expletive PRO does not seem to exist, as shown for example by the sentence in (i) taken from Belletti (1998:6, fn.16):

(i) *Maria è partita senza PRO essere certo che fosse necessario.
Maria has left without being certain that [it] was necessary

Infinitival clauses like (37b) and (38b) should not contain any preverbal expletive PRO. It thus appears that no element occurs in preverbal subject position in this case. Although this seems to be an unwelcome consequence of the present proposal, notice that the same problem arises in languages such as Logudorese, which have full subjects in infinitival clauses (see (42) in the text below). Since the question is quite general and goes beyond the scope of this paper, I will leave it open.

As clearly shown by the 1st person singular pronoun, which distinguishes morphologically between nominative and accusative, pronouns occurring in infinitivals display nominative Case (*Andarci io /*me sarebbe un errore* "go-there I/ me would-be a mistake"). In Burzio's words, "this forces us to assume that nominative is the unmarked form in Italian". Similarly, Belletti (1998:6) takes nominative Case in sentences like (37b) and (38b) to be a default realization for the subject pronoun.

6.2. On the "Middle-field" subject position

Notice that the present analysis treats both postverbal pronouns in finite clauses and postverbal pronouns in infinitival clauses as thematic subjects. However, it is necessary to distinguish the two with respect to other properties and to conclude that *lui* in (37b) and *noi* in (38b) are not the same type of postverbal subjects as the subject pronouns occurring in finite clauses.

First, in infinitival clauses overt pronouns occur in a postverbal subject position that precedes objects, and give rise to VSO sequences:[18]

(40) a. Il Rettore ha deciso [di aprire lui il convegno].
the Dean has decided to open he the conference
b. *Il Rettore ha deciso [di aprire il convegno lui].
the Dean has decided to open the conference he

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[18]. Sentence (40b) is grammatical with a different structure, where *lui* is the postverbal subject of the matrix predicate and the preverbal DP is left-peripheral (cf. section 3.2 above):

(i) Il Rettore ha deciso [di aprire il convegno] lui.

In order to make sure that the subject pronoun belongs to the embedded clause, an indirect object is added in (ii). As in (40), the subject pronoun can only precede the object (notice that in (iib), given the restriction on Italian postverbal subjects mentioned in section 4.1, the dative object is destressed):

(ii) a. Gianni ha deciso [di consegnare lui il pacco a Maria].
Gianni has decided to deliver he the packet to Maria
b. *Gianni ha deciso [di consegnare il pacco lui, a Maria].

This distribution correlates with another property of overt subject pronouns occurring in infinitival clauses: contrary to postverbal subjects of finite clauses, they are not necessarily focused. This is shown by the fact that they can co-occur with a focused element. The following sentences contrast with (19) above:[19]

(41) a. *Il Rettore ha deciso [di aprire LUI il convegno, non il suo rappresentante].
the Dean has decided to open he the conference, not his delegate
b. Il Rettore ha deciso [di aprire lui IL CONVEGNO, non la seduta].
the Dean has decided to open he the conference, not the meeting

To sum up: overt subject pronouns occurring in infinitival clauses are not to be assimilated to postverbal subject pronouns. They have a different distribution, which correlates with different focus properties.[20]

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[19]. Pronouns occurring in infinitival clauses can also be focused. Cf. the following question-answer pairs, taken from Belletti (1998:6,fn.15):

(i) A: Chi pensa di parlare a Gianni?
who thinks to speak to Gianni?
B: Penso di parlare io a Gianni.
(I) think to speak (I) to Gianni

Notice that in B., the presence of the destressed object *a Gianni* guaranteese that the subject *io* belongs to the infinitival clause (cf. fn. 16).
Since overt subject pronouns occurring in infinitival clauses need not be focused, the ungrammaticality of (39) cannot be attributed to the impossibility of focusing the weak pronoun *egli*.

[20] Consider (i), from Vincent (1999), which contains a 2nd person singular pronoun:

(i) Vorrei chiederti se ti farebbe piacere [aprire tu il congressino].
[I] would-like [to]ask-you if [it] you would please [[to] open you the workshop]

The form *tu*, unambiguously nominative, confirms the Case generalization on subject pronouns stated in 6.1. It also allows us to construct another empirical argument for the particular status of subject pronouns found in infinitival clauses. In Italian, the form *tu* is also used in postverbal contexts: *Hai*

In order to better understand the distribution of subject pronouns in infinitival clauses, consider the fact that languages which productively display overt subjects in infinitival clauses seem to use the same subject position as the pronoun in (40). Consider the following sentences, from Logudorese, a Sardinian dialect (data thanks to the courtesy of Lucia Molinu, p.c.). As in (40), the overt subject must precede the object:

(42) a. Kelzo a faeddare {tue / ?Pedru} kin Mario {*tue / *Pedru}.
[I] want to speak you / Pedru with Mario
b. Kelzo a bennere {tue / ?Pedru} a ddomo {*tue / *Pedru}.
[I] want to arrive you / Pedru to home

The pre-object subject position is also productive in Spanish finite clauses (cf. fn. 8) (from Ordóñez 1997:31):

(43) Ayer ganó Juan la lotería.
yesterday won Juan the lottery

Ordóñez (1997:93ff) takes the subject in (43) to occupy a Neut(ral) projection

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vinto tu (have won you = you have won). Thus, (i) could in principle be compatible with an analysis which takes *tu* to be a postverbal subject. In the Central Italian variety I speak, however, *tu* cannot be used in postverbal subject position, where it is replaced by *te*, identical with the accusative form of the 2nd person singular pronoun (cf. *Ho visto solo te* "[I] have seen only you"):

(ii) Hai vinto *tu / te.
have won you (= you have won)

Now, in infinitival clauses, the form *te* is ungrammatical:

(iii) *Vorrei chiederti se ti farebbe piacere [aprire te il congressino].
[I] would-like [to]ask-you if [it] you would please [[to] open you the workshop]

The ungrammaticality of (iii) confirms that in infinitival clauses, the subject pronoun is not a postverbal subject of the same type as the postverbal subject pronouns occurring in finite clauses.

(above VP and below TP) that presumably has the capacity of assigning nominative Case. Belletti (1998:15) makes a similar proposal by assuming that "languages like Spanish would dispose of an extra Case position, different from the preverbal one(s), where (nominative) Case can be assigned/checked". Similar proposals could account for the Logudorese facts in (42).

Adopting a terminology coming from the Germanic tradition, specNeutP can be called the "Middle-field" subject position. In both Ordóñez' and Belletti's proposals, the absence of VSO in Italian is attributed to the lack of the functional projection hosting Middle-field subjects. This proposal however fails to account for overt pronominal subjects in infinitival clauses, as in (37b) and (38b).

A partially different hypothesis, which also accounts for (37b) and (38b) and, furthermore, is compatible with the universal clause structure view defended in Cinque (1999), is to attribute the difference between Spanish and Italian not to a difference in structure, but to a difference in the properties of the relevant functional head. Suppose that in Italian, NeutP is also structurally present, but it does not have the capacity of checking Nominative case. In Italian finite clauses, subjects must be raised all the way up to specIP to overtly satisfy nominative Case checking. Under the hypothesis that checking is a requirement on the checking head (cf. Chomsky 1995, Cardinaletti 1997b), both (44a) containing a pronoun and (44b) containing a DP are ungrammatical because the Case features of the Inflection head are not checked (see also (19b) above):[21]

(44) a. *Apre lui il convegno.
opens he the conference
b. *Apre Giovanni il convegno.
opens Giovanni the conference

In Italian infinitival clauses, however, specNeutP can be occupied by intrinsically case-marked subject pronouns. (The further constraint operative in Italian, but not in Logudorese, that the overt pronoun in (37b) and (38b) be controlled by the matrix subject will not be discussed here). Hence, we get the contrast between pronouns

[21]. Economy restrictions on derivations forbid that a subject raised overtly to specNeutP raises covertly to specIP. Postverbal subjects occurring in the base specVP position before Spell-Out – cf. fn. 2 – can check Case covertly, see Chomsky (1995) and Cardinaletti (1997b).

and DPs observed in (37) and (38) above. The structure of e.g. (40) is the following:[22]

(45) Il Rettore ha deciso [$_{CP}$ di aprire$_V$ [$_{NeutP}$ lui$_i$ [$_{VP}$ t$_i$ t$_V$ il convegno]]]

Since they make use of a postverbal subject position, overt subject pronouns in infinitival clauses are restricted to Null-Subject languages and ungrammatical in Non-Null-Subject languages, as shown by English in (46a). The latter can only make recourse to the floating construction (46b) (from Solà 1992:191), to which I turn in section 7 below:

(46) a. *John decided [to do it him] / [to do him it].
b. John decided [to do it himself].

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[22]. An alternative to be explored is that there is more than one Middle-field subject position: one specialized to host pronouns and the other specialized for DPs. Independent evidence for the existence of two Middle-field subject positions comes from Hebrew. In negative equative sentences, only pronominal subjects are allowed (cf. Shlonsky 1999:312):

(i) a. 'eyn hi gveret Levi.
not she Mrs. Levi
"she is not Mrs. Levi"
b. * 'eyn Rina gveret Levi.
not Rina Mrs. Levi

As suggested by Shlonsky, in (i) the Middle-field subject position devoted to DPs is occupied by the predicative DP *gveret Levi*, which bans the occurrence of a DP subject, but not of a pronominal subject.

To account for the similar contrast found in (37) and (38), the suggestion can be made that in Italian infinitival clauses, only the highest Middle-field position is accessible to (pronominal) subjects, while in Spanish finite clauses both Middle-field subject positions are available. Further comparative research is however needed in order to understand the massive language variation in the postverbal subject positions (whereas preverbal subject positions seem to be more uniform across languages, cf. Cardinaletti 1997a).

6.3. Some consequences

In infinitival clauses, pronouns occur clause-internally and do not force the DP to be left-peripheral. They can thus co-occur with both *pro* and *egli* in the matrix preverbal subject position and be controlled by them (compare (48) with (24) above):

(47) pro sperava [di intervenire lui]. (Burzio 1986:110)
[he] hoped to intervene he

(48) Egli sperava [di intervenire lui].
he hoped to intervene he

For the same reason, in infinitival clauses pronouns are possible with non-referential subjects in the matrix clause (contrast (49) with (23) above):

(49) a. Nessuno sperava [di poter intervenire lui].
nobody hoped to be-able [to] intervene he
b. Qualcuno sperava [di poter intervenire lui].
somebody hoped to be-able [to] intervene he
c. Chi sperava [di poter intervenire lui]?
who hoped to be-able [to] intervene he?

7. EMPHATIC ELEMENTS

Subject pronouns can optionally be modified by *stesso* (self), both in preverbal and postverbal position, (50). This possibility also holds for subject DPs, (51):[23]

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[23]. A DP-internal modifier similar to *stesso* is *in persona* (in person):

(i) a. [Lui / Il Rettore in persona] è venuto.
he / the Dean in person is come
b. È venuto [lui / il Rettore in persona].

(50) a. [Lui stesso] è venuto.
he self has come
b. È venuto [lui stesso].
has come he self

(51) a. [Gianni stesso] è venuto.
Gianni self has come
b. È venuto [Gianni stesso].
has come Gianni self

I take (50b) to contain a postverbal modified subject pronoun, on a par with the modified subject DP in (51b). Sentences such as *Gianni è venuto lui stesso* are parallel to (50b), with an extra left-peripheral DP.

Like *stesso*, *in persona* cannot be stranded under subject raising (ii) and cannot precede the DP it modifies, (iii):

(ii) a. * Lui_i / Il $Rettore_i$ è venuto [t_i stesso].
b. * Lui_i / Il $Rettore_i$ è venuto [t_i in persona].

(iii) a. *[Stesso lui / il Rettore] è venuto.
b. * È venuto [stesso lui / il Rettore].
c. *[In persona lui / il Rettore] è venuto.
d. * È venuto [in persona lui / il Rettore].

In persona differs from *di persona*, which is a DP-external modifier, parallel to the adverb *personalmente* (personally):

(iv) a. *[Lui / Il Rettore di persona / personalmente] è venuto.
he / the Dean of person / personally is come
b. Lui / Il Rettore è venuto di persona / personalmente.
he / the Dean is come of person / personally
c. È venuto di persona / personalmente lui / il Rettore.
is come of person / personally he / the Dean

Modified pronouns can also appear in the position between auxiliary and past participle, (52a). This position is not open to full DP subjects, as shown by (52b):[24]

(52) a. Gianni ha lui stesso fatto questo.
Gianni has he self done this
b. *Ha Gianni (stesso) fatto questo.

Lui stesso can also occur with simple tenses, in a position between the main verb and the object. Once again, full DPs are ungrammatical in this context:

(53) a. Gianni fa lui stesso questo.
Gianni does he self this
b. *Fa Gianni (stesso) questo.

In (52a) and (53a), the pronoun is necessarily accompanied by the anaphoric modifier *stesso*. Consider the ungrammatical (54):[25]

(54) a. *Gianni ha lui fatto questo.
Gianni has he done this
b. *Gianni fa lui questo.
Gianni does he this

Thus, *lui stesso* in (52a) and (53a) is morphologically different from postverbal subject pronouns, which need not be modified by *stesso*. I take *lui stesso* in (52a) and (53a) to be a true emphatic element. As in English, Italian emphatic elements contain an anaphoric modifier, *stesso*. Along the lines of Sportiche's (1988) analysis of floating quantifiers, emphatic elements are left floating by DP movement to

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[24]. Sentence (52a) is taken from Solà (1992:62,fn.20), where it is attributed to Luigi Rizzi.

[25]. (54a) and (54b) are also ungrammatical under the analysis in which *lui* is the thematic subject (while *Gianni* is a left-peripheral DP). As shown by (52b) and (53b), the position between the auxiliary and the past participle is not available to subject DPs.

Notice that (54b) must be read with focus on the object. If the subject pronoun is focused and the object is destressed, this sentence is parallel to (19a) above.

specIP (cf. Solà 1992:68ff):[26]

(55) a. Gianni$_i$ ha [t_i lui stesso] fatto questo.
b. John$_i$ has [t_i himself] done it.

Emphatic elements can also follow the past participle, but in this case they follow the object as well (English examples from Solà 1992:57; 58,fn.13):

(56) a. ??Gianni$_i$ ha fatto [t_i lui stesso] questo.

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[26]. Here, I will not analyse the cross-linguistic difference concerning the morphological make-up of emphatic elements. Only notice that the facts do not enter the generalisation discussed in section 4.5. above, because they cut across Null-Subject and Non-Null-Subject languages. Whereas in English, French and Rumanian the modifier is accompanied by a pronominal both when it is DP-internal and when it is stranded (examples from Solà 1992:69,fn.28; 73), in Italian the anaphoric modifier *stesso* is accompanied by the pronominal *lui* only when it is stranded (cf. (51)):

(i) a. [John *(him)self] did the work. a'. John$_i$ did the work [t_i *(him)self].
b. [Jean *(lui)-meme] a fait cela. b'. Jean$_i$ a fait cela [t_i *(lui)-meme].
Jean he self has done that
c. [Ion *(el) insusi] a scris acest project. c'. Ion$_i$ a scris [t_i *(el) insusi] acest project.
Ion he self has written this project
d. [Gianni (*lui) stesso] ha fatto il lavoro. d'. Gianni$_i$ ha [t_i *(lui) stesso] fatto il lavoro.
Gianni he self has done the work

Germanic languages behave like English, French and Rumanian in that the emphatic element has the same form in the two positions, but they differ from these languages in that the emphatic element only consists of the anaphoric modifier. Here, I provide a German and a Danish example, taken from Solà (1992:66):

(ii) a. [Hans selbst] hat es gemacht. a'. Hans$_i$ hat es [t_i selbst] gemacht.
Hans self has it done
b. [Hans selv] har gjort det. b'. Hans$_i$ har gjort det [t_i selv].
Hans self has done it

b. Gianni$_i$ ha fatto questo [t_i lui stesso].

(57) a. *John$_i$ has done [t_i himself] it.
b. John$_i$ has done it [t_i himself].

I take (56b) and (57b) to be obtained through VP movement across the emphatic element:

(58) a. Gianni$_i$ ha [fatto questo]$_j$ [t_i lui stesso] t_j.
b. John$_i$ has [done it]$_j$ [t_i himself] t_j.

If this is correct, the analysis of sentences like (50b) and *Gianni è venuto lui stesso* must be partially rephrased. These sentences are ambiguous: they can contain either a postverbal modified subject pronoun co-occurring with an extra left-peripheral DP, or a true emphatic element left stranding by the raised DP subject.

Emphatic elements are compatible with non-referential DPs. Compare (59) (from Solà 1992:70) with (23) above:

(59) a. Everybody did the work herself / himself / themselves.
b. Nobody did the work herself / himself / themselves.

Emphatic elements are expected to be just emphatic and not focused or contrastive, an expectation which is borne out. Contrary to the postverbal pronoun *lui* seen above in (19b), *lui stesso* is not incompatible with a contrasted element in the same clause:

(60) a. Il Rettore ha lui stesso aperto IL CONVEGNO, non la seduta.
the Dean has he self opened the conference, not the meeting
b. Gianni ha lui stesso fatto QUESTO, non quello.
Gianni has he self done this, not that
c. Gianni fa lui stesso QUESTO, non quello.
Gianni does he self this, not that

Lui stesso in (52a) and (53a) also differs from postverbal subjects in that it

can appear clause-internally in restructuring contexts (61) and is not excluded from Complementizer Deletion and Aux-to-Comp constructions, (62) (compare (61) with (12) and (62) with (26) above):

(61) a. Giovanni lo è lui stesso venuto a prendere.
Giovanni it is he self come to fetch
b. Giovanni lo viene lui stesso a prendere.
Giovanni it comes he self to fetch

(62) a. Credo Gianni intervenga lui stesso.
[I] think Gianni intervene-SUBJ he self
b. Essendo Gianni lui stesso intervenuto, ...
being Gianni he self intervened, ...

Finally, notice that a weak pronoun such as *egli*, which cannot occur as a postverbal subject, (63), can occur as emphatic, (64a). Like any emphatic element, *egli* must be modified by the anaphoric *stesso*, (64a) vs. (64b):

(63) a. *Gianni ha fatto egli questo / questo egli.
Gianni has done he this / this he
b. *Ha fatto egli questo / questo egli.
[he] has done he this / this he

(64) a. Gianni ha egli stesso fatto questo.
b. *Gianni ha egli fatto questo.
Gianni has he (self) done this

Since they are floating elements, emphatic elements are not restricted to finite clauses. They can also occur in infinitival clauses, where they are stranded by the raised PRO subject. *Egli* and a null subject in the matrix clause are possible (compare (65b,c) with (24) above):

(65) a. Gianni crede [di PRO aver lui stesso fatto questo].
Gianni thinks to have he self done this

b. Egli crede [di PRO aver lui stesso fatto questo].
he thinks to have he self done this
c. pro crede [di PRO aver lui stesso fatto questo].
[he] thinks to have he self done this

However, emphatic elements cannot occur in the preverbal position of raising complements (English example from Solà 1992:233):

(66) a. *Gianni sembra [lui stesso aver fatto questo].
b. *John seems [himself to have done it].

The preverbal position of raising complements is not a position for floating elements:

(67) a. *I ragazzi sembrano [tutti aver fatto questo].
the boys seem all [to] have done this
b. *The boys seemed [all to have done it].

8. Conclusions

In this paper, the distribution and properties have been discussed of postverbal subject pronouns called emphatic by Burzio (1986). I have shown that they are not emphatic pronouns doubling a preverbal subject DP, but postverbal subjects that co-occur with a left-peripheral DP. This explains why they are only found in Null-Subject languages, thus making sense of part of a generalisation made by Solà (1992): he concluded that emphatic pronouns are never found in Non-Null-Subject languages.

Both types of languages have what I think qualify as true emphatic elements, which are non-thematic and consist of anaphoric elements alone or combined with a pronominal.

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The Status of "Mobile" Suffixes [1]

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Summary

Verbal suffixes encoding grammatical notions of mood, modality, tense, aspect and voice sometimes show variable ordering in one and the same language, or across different languages. Here I consider whether this should be taken as evidence against an invariant universal order of such suffixes. Since in many cases such variable orderings turn out to be illusory, I conclude that it would be rash, at this stage, to abandon the 'stronger', and more interesting, assumption that they enter a rigid relative order.

Verbal suffixes encoding grammatical notions of mood, modality, tense, aspect, and voice have been found to obey a relative order which is largely consistent across languages (Bybee 1985).[2]

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[1]. This article reelaborates material presented in a plenary lecture at the 6th Summer School of the Deutsche Gesellschaft für Sprachwissenschaft on Language Typology (Universität Mainz, 3/9/1998), in part appeared in the electronic volume *Chomsky Celebration Project*, MIT Press website http://mitpress.mit.edu/celebration, in 1998.

[2]. Bybee (1985) found that aspect suffixes are invariably closer to the verbal stem than tense suffixes, which are, in turn, closer to the verbal stem than mood suffixes. As pointed out by Johanna Nichols (cf. Foley and Van Valin 1984,223) Tesnière (1939) proposed a similar universal order of such suffixes: voice, aspect, tense of aspect, mode, tense of mode.

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This order appears to reflect, in a mirror fashion, that of the corresponding free morphemes (auxiliaries and particles), suggesting the existence of a layered constitution of the clause (Foley and Van Valin 1984, Dik 1989).[3]

In Cinque (1999), I have proposed that the layered structure of the clause is much richer than previously thought. Each of the ordered categories of mood, modality, tense, aspect and voice break down into a number of distinct grammatical markers, which are also ordered among each other. If we put together these different orders, we reach some forty or so grammatical layers for the clause.[4]

Within this picture of a rigid and invariant universal structure for clauses, "mobile" suffixes constitute a particularly severe challenge, as they seem to point to at least a partially undetermined structure.

On the basis of a number of representative cases, however, I will conclude that it is rational not to abandon the stronger assumption that the grammatical markers of mood, modality, tense, aspect, and voice enter an invariant and rigid universal order.

Consider first the case of variable ordering of a suffix in one and the same language.

In Turkish, the -(y)Abil- suffix expressing ability/permission or possibility is found to either precede or follow the negative suffix mA (the -(y)Abil- suffix is

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[3]. Apparent inconsistencies between Bybee's and Foley and Van Valin's findings arguably stem from differences in what the authors take to fall under the notion 'mood' in their respective systems (cf. Cinque 1999,55f).

[4]. A related suggestion of Cinque's (1999) is that the relative order of grammatical markers of mood, modality, tense, aspect, and voice corresponds to the relative order of the different classes of adverbs occurring in a clause, where each adverb is analysed as a specifier (phrasal modifier) of one grammatical (head) marker in a basic X-bar format.

Of course, no language displays all of the grammatical markers, or allows all of the different adverb classes to co-occur in a single sentence. Yet, the relative orders among them, across languages and clauses, can be obtained by transitivity, and appear to be consistent with the overall order of forty or so layers suggested in Cinque (1999).

That adverbs ("satellites") belong to different layers of the clause is also proposed in Dik's functionalist model (cf. Dik et al. 1990).

truncated to -(y)a- before the negative suffix mA - see Kornfilt 1997, 375, and Kornfilt 1998, from where (1) is taken):

(1) a oku-ya-ma-m
read-ABIL-NEG-1sg
'I am unable to/ am not permitted to read'

b oku-ma-yabil-ir-im
read-NEG-ABIL-AOR-1sg
'I might not read; it is possible that I not read'

It could thus be thought that the *-(y)Abil-* suffix is unordered with respect to negation (hence, that the corresponding modal projection has no rigidly fixed position). Yet, the *-(y)Abil-* suffix receives two different interpretations depending on whether it precedes or follows the negative suffix: that of a root modal ('be able to/ be permitted to') when it precedes, and that of an alethic modal ('it is possible/might') when it follows.

This suggests that the *-(y)Abil-* suffix can occupy two distinct slots, corresponding to two distinct modal projections, a higher, alethic, projection and a lower, root, one. This conjecture is consistent with what we know of English (and other languages) double modal varieties (cf., for example, 'He'll might could do it' and similar cases, in Hawick Scots -Brown 1992,75), where alethic modality indeed appears to be distinct from, and higher than, root modality (Cinque 1999, chapter 4). So, the conclusion that the same modal projection in Turkish can occur in two distinct positions is not really warranted.

Evidence internal to Turkish in fact confirms this interpretation, as the two modal heads can be simultaneously filled (see (2), also from Kornfilt 1998), with *-(y)Abil* both preceding and following the negative suffix:[5]

(2) oku-ya-ma-yabil-ir-im
read-ABIL-NEG-ABIL-AOR-1sg
'I might be unable to read; it is possible that I shall be unable to read'

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[5]. In (2), the outer suffix necessarily expresses alethic possibility, and the inner one ability/permission, in a way consistent, as noted, with the facts of double modal varieties.

More generally, whenever one and the same suffix can encode two different (presumably related) functional notions occupying two different positions, the illusion can be created that one and the same projection can occur in two different positions in the hierarchy of functional projections.[6]

This is no different from what is found with adverbs occupying two distinct positions (see Cinque 1999 for more discussion). 'Honestly', for example, can occur

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[6]. The same picture, modulo the insertion of an auxiliary to bear the outer *-(y)Abil-* suffix, is found in the cooccurrence of *-(y)Abil-* with the progressive aspect suffix *-iyor-*, or the perfect aspect suffix *-mIs-*. See (i)a-c, (ii)a-c, which were provided by Jaklin Kornfilt (personal communication):

(i) a oku-yabil-iyor
read-ABIL-PROG
'he is being able to read'

b oku-yor ol-abil-ir
read-PROG BE-ABIL-AOR
'he might be reading'

c oku-yabil-iyor ol-abil-ir
read-ABIL-PROG BE-ABIL-AOR
'he might be being able to read'

(ii) a oku-yabil-mis ol-ur
read-ABIL-PERF BE-AOR
'he has been able to read'

b oku-mus ol-abil-ir
read-PERF BE-ABIL-AOR
'he might have read'

c oku-yabil-mis ol-abil-ir
read-ABIL-PERF BE-ABIL-AOR
'he might have been able to read'

In addition to *-(y)Abil-*, other suffixes in Turkish appear to occupy different positions depending on the particular interpretation they take. Among these: *-sa* (counterfactual, or conditional); *-mIs* (perfect aspect, or evidential/inferential past); *-Acak* (future tense or prospective aspect).

either before or after an adverb like 'always'. When it precedes ((3)), it is interpreted as a speech act modifying adverb ('I'm honest in saying that..'):

(3) Honestly, I do pay my taxes

When it follows ((4)), it is interpreted as a manner adverb ('I pay them in an honest way'):

(4) I do pay my taxes honestly

That one and the same morpheme can occur in two distinct positions (with two different functions) is shown, once again, by the possibility of its occupying the two positions simultaneously. See (5):

(5) Honestly, I do pay my taxes honestly

The systematic parallelism between the apparently variable order of suffixes and that of adverbs is shown in a particularly clear way by the following variable ordering of the repetitive aspect suffix (*-coqo-*) in Tepehua (Watters 1988,237). This suffix may either precede or follow the desiderative suffix *-putun* (cf. (6)a-b), but, as Watters notes, the two possible orders receive two different interpretations, parallel to the two different interpretations that the corresponding adverb *again* takes in the English glosses of (6)a-b:

(6) a k-wayn-ć́oqo-putun
1SUB-eat-REP-DESID (IMPF)
'I want to eat again'

b k-wayn-putun-ć́oqo-y
1SUB-eat-DESID-REP-IMPF
'Again I want to eat'

It could of course be that in certain cases, due to some independent factor, the two identical suffixes cannot appear simultaneously; a matter of some consequence, as it may lead to wrong conclusions. Though Watters does not say whether *-coqo-* may

appear both preceding and following the desiderative suffix, a clear case of this sort appears to be provided by Japanese.

In Japanese, the inceptive aspect suffix *-hajime-* ('begin') can appear either preceding, or following, the passive suffix -rare-:[7]

(7) a Ie-wa tate-hajime-rare-ta 1950-ni
house-TOP build-begin-PASS-PAST in 1950
'the house was begun to build in 1950'

b Ie-wa tate-rare-hajime-ta 1950-ni
house-TOP build-PASS-begin-PAST in 1950
'the house began to be built in 1950'

The two *-hajime-* suffixes, however, cannot easily occur simultaneously (?* *Ie-wa tate-hajime-rare-hajime-ta 1950-ni*). Nonetheless, it would be rash to conclude from that that the inceptive aspect projection is freely ordered with respect to the Voice projection.

There is some evidence from Romance that two inceptive aspect verbs (and projections) should be distinguished (one higher, and one lower, than Voice). See Cinque (1997). The higher one marks the beginning of a bounded or unbounded process at a point which is not the "natural beginning point" (*cominciare* 'start', in Italian); the lower one marks instead the beginning of a (bounded) process at its "natural beginning point" (*iniziare* 'begin', in Italian).

Given their specialization, the two cannot easily cooccur, although if one forces them to cooccur, in Italian, one of the two orders is definitely preferable (*??Le case cominciarono ad esser iniziate a costruire molto in ritardo* 'the houses started to be begun to build very late' vs. **Le case iniziarono ad esser cominciate a costruire molto in ritardo* 'the houses began to be started to build very late').[8]

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[7]. In the Japanese linguistic literature, morphemes like -hajime- are generally treated as aspectual verbs entering complex predicate formations with other verbs and suffixes. From the present perspective, there is no reason to treat them differently from other aspectual or tense suffixes. The sentences in (6) were provided by Shigeru Miyagawa (personal communication).

[8] The specialization of the two inceptive aspect verbs, and projections, appears to parallel the specialization of terminative aspect verbs, and projections, (like smettere 'stop'), which mark a "non

Now, some indirect evidence exists that the same distinction holds in Japanese.

As opposed to *-hajime-* (which appears to correspond to either type of inceptive aspect), the inceptive aspect verb/suffix *-das-* appears, instead, to mark only the starting point of a process at a "non natural beginning point" (often with the added nuance of a sudden or unexpected start). It is thus a form specialized for the higher inceptive aspect head. Interestingly, as Mamoru Saito pointed out to me, *-das-* (differently from *-hajime-*) can be found following, but not preceding, the passive suffix *-rare-*; an expected fact if it only corresponds to the inceptive aspect head higher than Voice. See (8)a-b:[9]

(8) a?*Ie-wa tate-das-are-ta
house-TOP build-start-PASS-PAST
'the house was started to build'

---

natural end point" of a bounded or unbounded process, and completive aspect verbs (like finire 'finish'), which instead mark the "natural end point" of a bounded process. The former are also higher than Voice, while the latter can be lower (see Cinque 1997).

[9]. Once again, the same pattern is found with adverbs. Whereas the adverb *abitualmente* 'habitually' can be interpreted either as a habitual adverb, higher than the modal adverb *volentieri* 'willingly' ((i)a), or as a manner adverb, lower than *volentieri* ((i)b) (also see (i)c, where both adverbs occur simultaneously), the adverb *di solito* is specialized for the higher habitual adverb slot ((ii)a), and cannot be used in the lower manner adverb position ((ii)b):

(i) a Gianni vedeva abitualmente volentieri le stesse persone
'G.used to habitually willingly see the same persons'
b Gianni vedeva volentieri le stesse persone abitualmente
'G. used to willingly see the same persons habitually'
c ?Gianni vedeva abitualmente volentieri le stesse persone abitualmente
'G.habitually used to willingly see the same persons habitually'

(ii) a Gianni vedeva di solito volentieri le stesse persone
'G. used to normally willingly see the same persons'
b *Gianni vedeva volentieri le stesse persone di solito
'G. used to willingly see the same persons normally'

b Ie-wa tate-rare-dasi-ta
house-TOP build-PASS-start-PAST
'the house started to be built'

The two orders of the suffix in (7) can thus be taken to correspond to two distinct (and specialized) inceptive aspect projections. The illusion of a variable ordering of *-hajime-* with respect to the Voice suffix only arises, then, as a consequence of the fact that the same morpheme can express both the higher and the lower inceptive aspect head just as the morpheme *-(y)Abil-* in Turkish (or, for that matter, the modal 'can' in English) can express both alethic possibility and root ability/permission.

Cases of this sort, where a certain suffix expresses either of two (related) functional notions, coming to fill two different positions, are found language after language. I believe that many of the cases of variable morpheme ordering considered in Nedjalkov (1992) are amenable to such a reinterpretation. For example, it is tempting to take the variable ordering of the inceptive aspect suffix in Evenki ((9) = (3) of Nedjalkov 1992), and Aleut ((10) = (26) of Nedjalkov 1992) with respect to the desiderative modal suffix to arise from the double possibility open to the inceptive aspect heads seen above:[10]

(9) a Nuŋan hereket in-mu-l-che-n
she separately live-desid-INCEPT-PAST
'she began to want to live separately/on her own'
b Nuŋan kete-li sa-l-mu-d'a-cha-n
he much-PROLATIVE know-INCEPT-desid-IMPERF-PAST-3sg
'he wanted to begin to know (about) many things'

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[10]. In fact, as Nedjalkov (1992,38f) notes, Evenki allows a double occurrence of the inceptive aspect suffix. See (i) (I have glossed as INCEPT(ive) what Nedjalkov calls 'inchoative' as the form is translated with 'begin'):

(i) Asa-l degi-li-chi-l-le-Ø
woman-pl fly-INCEPT-PROCESSIVE-INCEPT-nonfut-3pl
'women began to fly up'

(10) a Ka-Kali-tu-ku-H
eat-INCEPT-desid-nonfut-3sg
'he wants to begin to eat'
b Ka-tu-Kali-ku-H
eat-desid-INCEPT-nonfut-3sg
'he began to want to eat'

Although one cannot be certain that all cases of variable morpheme ordering of mood, modality, tense, aspect and voice suffixes are due to the same suffix filling different, specialized, head positions in an invariant hierarchy, the above discussion of some such cases at least renders this eventuality plausible. If so, many inconsistencies in the relative order of functional heads among languages might turn out to be apparent only. One language could, for example, have an inceptive morpheme corresponding only to the higher inceptive aspect head, while another could have one corresponding only to the lower inceptive aspect head, thus giving the impression of ordering its inceptive aspect projection differently from the other language.

I want to conclude by mentioning one possible case of this sort. That involving the position of sentential negation.

Negation stands out as rather special among the various functional heads. For reasons of scope relative to other operators it can occur in numerous positions (in some languages even simultaneously).

In Tuyuca, for example, the negative suffix *-ri-* "which negates only the information which occurs to its left" (Barnes 1994,331), can appear either before or after certain other suffixes (acquiring different scopes):

(11) a Bué-ruku-ri-wi
study-constantly-Neg-Evidential
'I did not study constantly (i.e., I studied, but not constantly)'
b Bué-ri-ruku-wi
study-Neg-constantly-Evidential
'I constantly did not study (i.e., I was constant in not studying)'

This suggests the existence of many potential positions for negation within the universal hierarchy of gramatical markers. And this, in turn, opens up the possibility

that a language may differ from another as to the position which it selects as the canonical position for sentential negation. Indeed, sentential negation is higher than Past tense in some languages (Malayalam, Mongolian..), lower than Past tense in other languages (Bangwa, Nigerian Pidgin,..), and lower still in others (Turkish, Piedmontese,..). Cf. Cinque (1999, chapter 5).[11]

The facts reviewed above, even if they do not show conclusively that all "mobile" suffixes are only apparently mobile, at least invite some caution in drawing conclusions which bear on the assumption that grammatical markers come in a rigidly fixed order.

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[11]. Similar conclusions appear to hold of agreement suffixes (cf., again, Cinque 1999, chapter 5).

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The functional structure of noun phrases:[1]
A bare phrase structure approach

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1. Introduction

The goal of this paper is to give a general overview of recent studies on the syntax of determiners, particularly in Romance, Germanic and Balkan languages, which can shed some light on general theoretic issues. In so doing, I will reconsider some proposals of mine as well as of other linguists in the light of the recent framework of bare phrase structure as developed by Chomsky (1993, 1995).

The paper is organized in three sections. In Section 1., I present some general assumptions and some general hypotheses that will be motivated in the course of the paper. Section 2. deals with articles. Section 3. deals with demonstratives as well as other elements that may function as referential operators inside the noun phrase.

1. I thank Anna Cardinaletti and Guglielmo Cinque for comments and discussion and the audience of the first meeting of the joint project "For a cartography of functional categories" held at the Venice International University in January 28-30 1999 for helpful comments.

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1.1. Basic assumptions

In the course of the paper, I will adopt a number of assumptions which are currently made in the literature and four additional assumptions that I have proposed in previous work of mine and in collaboration with Mila Dimitrova-Vulchanova.

The general framework is provided by Grimshaw's (1991) theory of functional projections which considers functional heads to be projected by the lexical head in a bottom-up fashion, without labels.[2] In this particular regard, Grimshaw's proposal is perfectly in line with Chomsky (1993, 1995) bare phrase structure approach. Notice, furthermore, that all the structures resulting from this work comply with Kayne's (1994) antisymmetric hypothesis.

The proposals developed here will make use of the following minimal assumptions to account for a wide range of syntactic phenomena which arise in relation to so-called determiners in a certain number of languages including Romance, Germanic, and Balkan:

(A1) The realization of a functional head is a last resort procedure.

(A2) If a functional head is realized, then it is either a dependent morpheme or a weak[3] free morpheme.

(A3) All the functional heads of an extended nominal projection share the same φ-features

(A4) The interpretation of a noun phrase at LF is done in its highest Specifier position (generally referred to as SpecDP, here refered to as $SpecFP^{max}$).

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2. For the projection of the arguments of the noun I assume Larson's (1988) proposal according to which the elements that satisfy the selectional requirements of lexical heads, including θ-role assignment, are merged in a shell built by recursion of the label of the lexical head (NP-shell in this case). I have nothing to contribute to the NP-shell theory here. My contribution is limited to the syntax of so-called "determiners" and will only be relevant to the functional part of syntactic structure.

3. "Weak" in the sense of Cardinaletti and Starke (1999).

(A1) captures the empirical observation that we certainly do not find as many overt functional heads as are generally assumed to be projected in the structure. We will see in 3. that this assumption can be turned into the parametrized "Principle of economy of lexical insertion" (43) to account for a series of phenomena that can be described as the "doubly-filled XP filter".

(A2) describes a group of properties that have often been noticed for functional categories and which can be summarized as in (1), adapted from Abney (1987:64f):

(1) *General properties of functional heads*

a. They constitute closed lexical classes.

b. They are generally phonologically and morphologically dependent.

c. They can be sisters only to one kind of category.

d. They are usually inseparable from their sister projection.

e. They lack substantive content.

None of the properties in (1) is necessary or sufficient to attribute functional status to a morpheme. Altogether they show a strong tendency which is captured in (A2). The assumption in (A2) states a strict correlation between semantics and its morpho-syntactic realization: A functional category is semantically "weak" in the sense that it only carries features such as number, gender, definiteness, case, which are shared by all other elements of the same class. As a consequence, a functional category is also morpho-syntactically "weak". Given (A1), we expect that if and only if the conditions for the licensing of a covert functional head are not met, its realization will be morphologically minimal, either by an inflectional morpheme or by a free morpheme devoid of lexical content.

(A3) captures the fact that in the largest majority of cases, functional heads in the nominal structure appear to trigger, on the modifiers of the noun, agreement for all the φ-features present on the head noun (including gender, number, and Case). If there were

no sharing of such features, we would expect to find some modifiers agreeing for number only, some other for gender only, and other still for Case only. Furthermore, if the functional structure was made of different functional projections, each one specified for a single different feature, we would expect the hierarchy on the adjectives to be mirrored in different agreement specifications on the single adjectives. But this is never the case in the empirical domain studied here. From this observation, I conclude that in natural languages, functional heads which trigger agreement of modifiers with these φ-features are copies of the φ-features on the head noun. Since these features are visible elsewhere, it is often the case that they do not need to be overt.

(A1) through (A3) are often implicit in the literature. Here they will be kept in the most general formulation. No difference will be made between Agr heads and other functional heads, including D. All of them will be labelled as F, a welcome result in a framework which aims to economy.[4]

(A4) is necessary if D (from now on F^{max}) is maintained as devoid of substantive content, at the same time capturing the well-known facts which have led a large tradition of linguistic research to attribute semantic content to the article. The underlying idea is that the apparent effects of the referential properties of the article can be derived by the assumption, due to Campbell (1993), of an empty operator which functions like a demonstrative and is in the same position as a demonstrative when the definite article is in F^{max}.

1.2. Hypotheses

The previous assumptions will allow the formulation of two very general hypotheses on the categorial status of determiners:

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4. In this respect, it is more general than the assumption made in Chomsky (1995:240) which takes D together with C and T a part from other functional heads and attributes semantic content to them. I have nothing to say about T. In this paper I will not attempt any claim on C either. However, I envisage a parallel treatment of D and C, as often implied in the literature.

(H1) Among determiners, only articles are functional heads (and appear in F^{max}).

(H2) Demonstratives as well as other maximal projections carrying referential features can / must check their referential features in $SpecFP^{max}$.

(H1) derives from assumptions (A1)-(A2) generally extended to all functional categories in the noun phrase including articles. Such an extension is not only welcome from the theoretical point of view in that it does not need to make any distinction among nominal functional heads, but it can capture the empirical observation that articles display a very different syntactic behaviour across languages. In particular, articles may be missing or, when present, they may be inflectional morphemes (enclitic) or can be considered as dummies (proclitic or free morphemes with no semantic value). In section 2., I will show that a definite article in some languages is inserted on syntactic grounds regardless of the referential properties of the noun phrase. Cross-linguistic variation is found as to the cases in which insertion of the article (a last resort procedure) is necessary for a given language.

According to (H2), demonstratives behave like modifiers of a particular kind. Differently from articles they provide semantic referential features to the noun phrase. Notably, they are not the only elements that can contribute referential features to the noun phrase; a well-known example of this kind are prenominal possessives in English. In section 3., it is shown that demonstratives are XPs across languages, that they are not directly merged in FP^{max} but they are merged lower in the structure and further moved to $SpecFP^{max}$ to check their referential features. This property is shared by other modifiers of the noun, such as possessive adjectives, personal pronouns, proper names, etc. Cross-linguistic variation is found as to the stage of the derivation in which the referential modifier (be it a demonstrative or another element) moves to $SpecFP^{max}$.[5]

5. I disregard the case of possessive clitics inside the noun phrase as spurious. Clitics or weak pronouns are special elements which have both maximal and minimal status. It is their maximal status which is accounted

In the course of the paper, I will argue that the term "determiner" is spurious. It is a jargon term to refer to elements which are often, but not always, found at the leftmost position in the noun phrase and apparently are in complementary distribution with one another in well-studied languages. But this is not the case in other languages, such as Modern Greek, Rumanian, Hebrew, or Welsh (cf. Brugè and Giusti (1996) and Brugè (this volume)), articles and demonstratives are not (or not always) in complementary distribution and the demonstrative is not (or not always) the leftmost element in the noun phrase.

Elsewhere I have also argued against the unification of quantifiers with other determiners. In particular, I have argued that quantifiers are never in the position where determiners can be found. They are either lexical heads merged above FP^{max} or adjectival phrases in a functional specifier of the noun phrase. For a syntactic account of quantifiers in Germanic and Romance cf. Giusti (1991a, 1991b, 1991c, 1993, 1997), in Bulgarian cf. Dimitrova-Vulchanova and Giusti (1996), in Bosnian cf. Giusti and Leko (1995). For reasons of space, I will limit my concern here to the study of FP^{max}.

2. Articles

2.1. phonologically dependent

In the languages displaying a morphologically free article, such as Romance (except Rumanian) and Germanic (except Scandinavian), the form of this element is phonologically dependent on the context inside the noun phrase. This dependency is not displayed with respect to elements which are external to the noun phrase. I will take this as evidence for the functional status of the article in the extended nominal projection,

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for in this paper. To account for the position they fill due to their the minimal status more work needs to be done. Nothing here is against the hypothesis that they fill a functional head position.

assuming that a functional head entertains a priviledged relationship with an immediately higher functional head and with the immediately lower specifier in the same extended projection.

The definite article in Italian is never enclitic on any element which is not part of the noun phrase. It is either proclitic on the following nominal element (2b) or enclitic on a preposition (3b):

(2)	a.	Mangi[a lo] scorfano.	cf.	*Mangi[allo] scorfano.
		[(s)he] eats the scorpion fish		
	b.	Mangia l'arrosto	cf.	*Mangia il/lo arrosto.
		[(s)he] eats the roast [beef]		
(3)	a.	Ha parlato [a lo]redana.	cf.	*Ha parlato[allo]redana
		[(s)he] talked to Loredana.		
	b.	Ha parlato [allo] scolaro.	cf	*Ha parlato[alo] scolaro
		[(s)he] talked to the pupil		

In the Central-Italian variety of the central Marches (Ancona), "raddoppiamento sintattico"[6] is very limited if there is any at all.[7] In particular, no reduplication of the following consonant is found between the verb *mangia* and its object in (2a/b) or between the preposition *a* and the following proper name in (3a). However, when the definite article is preceded by a preposition, the resulting form has a geminate consonant suggesting that something different from prosodic rules has applied. Let's assume that in (2b), (3b) we have a case of head incorporation. In (2a) the article (a nominal functional head) cannot incorporate on the verb. In (3a) the poper name cannot incorporate onto the preposition because it is not a functional head, as we will argue in 3.4. below.

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6. For a phonological account of "Raddoppiamento sintattico" cf. Chierchia (1986).

7. I am not referring to the dialect spoken in that area, which tends to degeminate consonants and would not show the relevant contrast in (3), but to the pronounciation of Standard Italian in that area.

This suggests that the definite article is a functional head in the extended projection of the noun phrase. It is the highest unless a monosillabic preposition is present.[8] Although this is not the place to make a point on the functional vs. lexical status of prepositions in Italian, it is plausible to assume that a subset of the monosillabic prepositions in Italian have the function of case markers, as also argued for by Cardinaletti and Starke (1999). This function can also be claimed for the definite article.[9] It is conceivable that the articulated preposition is not formed by incorporation of the article into a higher P violating the Mirror Principle but it is a unique element realizing Case as well as all other φ-features of the noun in F^{max}.

2.2. *morphologically dependent*

The strongest evidence in favour of the morphological dependency of the article is that in some languages the article is enclitic. This is found in some Balkan languages such as Rumanian, Albanian and Bulgarian, and in all Scandinavian languages represented here by Norwegian:[10]

(4) a. Rumanian: băiat*ul*
b. Albanian: djal*i*
c. Bulgarian: momče*to*
d. Norwegian: gutt*en*
boy-the

8. Cf. Rizzi (1988) for a detailed description of prepositions in Italian.

9. Cf. Giusti (1993:ch.2) for a general proposal in which the Romance and Germanic article is analysed as a surrogate of the case morphology present in Latin and Germanic respectively. Cf. Giusti (1995) for a detailed account in German, and Giusti (to appear) for an account in Romance.

10. Along the same line of reasoning, cf. Dimitrova-Vulchanova and Giusti (1998) for a more detailed account of the analysis of the Balkan noun phrase, and Giusti (1994b) for a comparative analysis with the Scandinavian languages.

The first studies on this topic (cf. Dobrovie-Sorin (1987), and Grosu (1988) for Rumanian, Hellan (1985), and Taraldsen (1990) for Scandinavian) have taken for granted that the article is inserted in D and the N moves to D to obtain encliticization. A hypothesis of N-to-D movement at Spell-Out for all cases in (4) predicts that in these languages, the presence of the enclitic article implies that the head noun is found at the leftmost side of the noun phrase when the enclitic article is inserted. But this is often not the case, as argued for in detail in Dimitrova-Vulchanova and Giusti (1998).

In a late principles-and-parameters framework (cf. Chomsky and Lasnik 1993), the obvious revision of that hypothesis was to assume that the noun, already inflected with the article, checks the D-features by movement to D. This was the position taken by Dimitrova-Vulchanova and Giusti (1998) who reduce the variation across languages to the different level of representation where this movement applies combined with the requirement that a specifier must be in a Spec-Head relation with a head which already contains the φ-features of the noun.

The point here is to argue that the enclitic article is not an independent head inserted in D which for some language-specific feature is so "strong" as to trigger N movement all the way to D; but an inflection of the noun which can trigger one step movement if the head noun is in the immediately lower head.

Let us consider the contrasts arising when a modifier of the noun is inserted in a noun phrase in which the enclitic article is present. Notice that all examples in (5)-(8) present the same word order displayed in the parallel indefinite noun phrases where no enclitic article occurs[11]:

(5)	Rumanian	a.	băiat*ul* frumos	cf.	un băiat frumos
			boy-the nice		a boy nice
		b.	*frumos băiat*ul*		

11. The same word orders are also found with other determiners and demonstratives, so as to make the definite interpretation on the noun phrase irrelevant to the word order.

		c.	frumos*ul* băiat	cf.	un frumos băiat
		d.	*frumos*ul* băiat*ul*		
(6)	Albanian	a.	djal*i* i mirë	cf.	një djalë i mirë
			boy-the ARTgood		a boy ART good
		b.	* i mirë djal*i*		
		c.	%i mir*i* djalë	cf.	%një i mirë djalë
		d.	*i mir*i* djal*i*		
(7)	Bulgarian	a.	*momče*to* goljamo	cf.	*momče goljamo
		b.	*goljamo momče*to*		
		c.	goljamo*to* momče	cf.	goljamo momče
			big-the boy	[a] big boy	
		d.	*goljamo*to* momče*to*		
(8)	Norwegian	a.	*gutt*en* store	cf.	*en gutt stor(e)
		b.	*stor*e* gutt*en*		
		c.	*stor*en* gutt(*en*)		
		d.	*den* store gutt*en*	cf.	en stor gutt
			the big boy-the	a big boy	
		e.	**den* store gutt (OK in Danish!)		

In (5-8a), we find the word order expected if N-to-D movement takes place before Spell-Out, in (5-8b) the word order expected if N-to-D procrastinates until LF. This is never found. In (5-8c/d) N does not move at all. (5-8c) show that the article can appear on a prenominal adjective. This is not allowed in Scandinavian (8c). There, in the presence of an adjective the article is a free morpheme. In (5-8d) the article is reduplicated. This is only allowed in Scandinavian, except for Danish where we find the parallel of (8e) which, *mutatis mutandis*, corresponds to (5-7c).[12]

12. For an analysis of article reduplication in Scandinavian cf. Delsing (1993), Santelmann (1993), Giusti (1994b), Börjars (1995), Kester (1996), Svenonius (1993).

Some general considerations are suggested by the data in (5)-(8). N-to-D movement is only found in languages where N-movement independently occurs.[13] This suggests that the presence of the enclitic article does not necessarily trigger such a movement. Furthermore, in all languages under consideration here, the article is the topmost head of the structure.[14]

In a bare structure framework where the structure is built bottom-up, this suggests that the features expressed by the article are merged last in the noun phrase. Thus, the article merges on the highest nominal element. In Rumanian, this can be the head noun which has moved across the specifier containing the adjective. But since the movement of the noun is not obligatory (depending on the adjective and on the stylistic choice)[15] the enclitic article can appear on an adjective. In Albanian, N moves across all specifiers in the unmarked case, regardless of the presence of the enclitic article. Thus the article appears on the noun in the unmarked case. In Bulgarian, N does not move across any adjective and the article can appear on the N only if no specifier is inserted. The same is the case in Scandinavian.[16]

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13 In Rumanian and Albanian most APs follow the noun even if this is not inflected with the enclitic article. Only in Rumanian there is evidence that N+art can move across a specifier which cannot be crossed by an uninflected N, cf. Giusti (1997) and Dimitrova-Vulchanova and Giusti (1998).

14. In most Scandinavian languages the enclitic article is reduplicated on the noun but this can be treated as a subcase of article reduplication which will be discussed in section 2.1.4. below as evidence for the non-substantive nature of the article.

15. Some adjectives are obligatorily post-nominal (e.g. nationality adjectives) some others are preferably postnominal but maybe prenominal (e.g. topicalized descriptive adjectives, cf. Cornilescu (1995)), other still must be prenominal (e.g. *biet* ("poor" in the sense of "pityfull"), and ordinals). This situation is identical to Italian as depicted in Cinque (1994) and Giusti (1993). This states of affairs confirms the total unrelatedness of the enclitic nature of the article with N-movement.

16. So far, I have assumed a generally accepted conception of how to build the lexical projection NP and its modifiers. I will stick to it. I will follow Cinque (1994) in assuming that adjectives are specifiers of functional heads. The presence of a functional head for each specifier captures in a direct way the redundant morphological agreement on adjectives. The possible alternative which considers specifiers as intervening

2.3. inseparable from their sister projection

A third piece of evidence for the dependent nature of the definite article is the fact that it cannot be used discontinuously from its sister projection (9a), similarly to demonstratives (9b) but contrary to quantifiers (9c):

(9) a. **Ragazzi (li/ne) conosco i.
b. ?*Ragazzi (*li/*ne) conosco questi.
c. Ragazzi, ne conosco molti. / I ragazzi li conosco tutti.
boys [I] Cl-GEN know many / the boys [I] Cl-ACC know all

Assuming that Move cannot break extended projections but can exclusively apply to (FP^{max}), we obtain that only elements which are external to FP^{max} can remain in place. In Giusti (1991, 1993, 1997), I have argued that those Qs which can appear in distant positions are external to the noun phrase and impose selectional restrictions on their sister (which is an FP^{max}) such as Case requirements. In (9c), *molti* ("many") absorbs the Accusative Case assigned to it by the verb *conosco*, and imposes a Partitive Case on the noun phrase which is realized as morphological genitive on the clitic form *ne*. *Tutti* has the property to let its Case percolate through FP^{max}, this is why the clitic *li* appears in the morphological accusative. On the contrary, demonstratives in (9b) and articles in (9a) are internal to FP^{max} and cannot be separated from the rest of the projection.

The crucial difference between article and demonstratives is the impossibility for articles to appear without an overt sister projection (10a), while this is possible with demonstratives (10b):

(10) a. **Ho comprato il/lo/la
[I] bought the

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heads, as proposed by Delsing (1988), Lamarche (1991), or a mixture of the two, as in Bernstein (1993), is incompatible with Grimshaw's extended projection approach taken as a guiding line here.

b. Ho comprato questo/a
[I] bought this

This suggests that articles are merged only if a lexical head (a noun or an adjective) is present, parallel to inflectional morphology; while demonstratives can occur with a covert sister projection. This property is directly derived from the morpho-phonologically dependent nature of the article seen in sections. 2.1-2.

In German, we find apparent counter-evidence for this generalization. In (11b-c) the definite article appears in the same contexts as a personal pronoun:

(11) a. Hans hat eine Frau gesehen. *Sie* stand am Fenster.
b. Hans hat eine Frau gesehen. *Die* stand am Fenster.
"Hans saw a woman. She was standing at the window"
c. Hans hat *sie/die* gesehen.
"Hans saw her"

It is possible to argue that the *d*-element in (11b-c) is not an article but a demonstrative. (Cf. Passaler (1997)). Prepositional phrases help us distinguish between the definite article and the *d*-pronoun. (12a) gives us the basic structure with an indefinite article which is bisyllabic and never incorporates. The definite article obligatorily incorporates in (12b), while the *d*-element cannot do so in (12c):

(12) a. Wir treffen uns an einem Eingang des Bahnhofs.
"We'll meet at an entrance of the station."
b. Wir treffen uns **am** Eingang des Bahnhofs.
"We'll meet at the entrance of the station."
c. Wir treffen uns an **dem** Eingang des Bahnhofs dort drüben.
"We'll meet at that entrance of the station over there."

As we have already seen in (12c) the *d*-element appears with the locative *da/hier* which generally appears with demonstratives and is incompatible with articles in other languages, such as French in (13b') and Italian (13c'):

(13)	a.	German	das (Buch) da / hier		
	b.	French	ce (livre) ci / la	b'.	*le livre ci / la
	c.	Italian	questo libro qui / quel libro lì	c'.	*il (libro) qui / lì
			"This (book) here / there"		

The co-occurrence of demonstratives and locatives is not just a matter of compatibility but one of selection, as argued in Brugè (this volume). Therefore, the *d-element* should be analysed as an XP, like a demonstrative. Brugè convincingly argues that the demonstrative and the locative start as a constituent. The demonstrative further moves to a higher projection, while the locative remains in place, thereby marking the basic position. Her analysis applies to *d*-elements in German regardless of the presence of the locative. In (14a), I give the analysis of the relevant string of (12b), while (14b) corresponds to (12c):

(14) a. $[_{FP max}$ *am* $[_{FP2}[$*Eingang*$_i$ $[_{FP1}[$*des Bahnhofs*$]$ $[_{NP}$ $[t_i[\ldots]]]]]]]$

b. $[_{FP max}$ an $[_{F3}$ *dem*$_y$ $[_{FP2}[$*Eingang*$_i$ $[_{FP1}[$*des B.*$][_{DemP}$ $[t_y$ *(dort drüben* $]$ $[_{NP}t_i[\ldots]]]]]]]]]$

According to (H2), the demonstrative will further move for interpretive reasons to SpecFP^{max}, in compliance to (A4), as we will see in 3.1 below.

A final piece of evidence against a unification of the *d*-article in (15a) and the *d*-pronoun in (15b) is the fact that the two elements have a different dative plural form:

(15) a. mit den/*denen Freunden

b. mit denen/*den

The fact that the *d*-element is partly homophonous with the definite article does not surprise us if we consider that in many Indo-European languages both articles and pronouns derive from demonstratives.[17]

2.4. devoid of substantive content

In some languages multiple occurrences of the article are found in one and the same noun phrase. This does not produce a multiple index interpretation:

(16) Greek a. *to* oreo *to* vivlio
b. *to* vivlio *to* oreo
"The good book"

(17) Hebrew *ha*-bxina *ha*-tedira shel ha-mismaxim
the-examination the-frequent of the-documents
"The frequent examination of the documents"

(18) Albanian a. djal*i i* mirë
boy-the the-good
b. *i* mir*i* djalë
the good-the boy
"The good boy"

17. Cf. Giusti (1995) for an analysis of the formation of the definite article from the demonstrative in German, and Giusti (in press) for the results of the Latin demonstrative ILLE as article and pronoun in Romance.

(19) Rumanian a. băiat*ul* (*cel*) frumos
boy-the (the) good
b. frumos*ul* băiat
nice-the boy
"The nice boy"

(20) Norw./Sw. *den* store gutt*en*
the good boy-the
"The good boy"

In Greek (16) and Hebrew (17), the article on the demonstrative and the article on the adjective are aparently the same kind of element with respect to their morphology and their relation to a lexical head. Their occurrence is not limited to a single adjective but to every adjective present in the structure. In Albanian (18) and Rumanian (19), we find two different articles that can appear on the adjective: one is the same as the nominal article (enclitic *-i* in Albanian (18b) and enclitic *-ul* in Rumanian (19b)), the other is specific for the adjective and has different properties. In both languages it is proclitic on the adjective, but it otherwise displays very different properties in the two languages.[18]

One piece of evidence in favor of the referential value of the definite article is the fact that in Italian the repetition of the definite article introduces a different referential index, as argued in Longobardi (1994). In (21), where the article is repeated, the predicate must be plural, showing that the two articles in the singular have different indexes. This

18. In Albanian, it is part of the adjectival root and it is present regardless of the definiteness of the noun phrase and of the pre- vs. post-nominal position of the adjective. In Rumanian, it is optional, it can only appear on some classes of adjectives (e.g. thematic adjectives are excluded), and it can only appear when the adjective is postnominal. For a more detailed presentation of the data cf. also Giusti (1993:73-79). The analysis of "adjectival articles" is not directly relevant to the point to be made in the present section. More properties of this kind of articles will be dealt with in section 3.6. below.

contrasts with (22) in which the article is not repeated and the interpretation of the subject can only be singular:

(21) a. *È arrivata la mia segretaria e la tua collaboratrice[19]
has arrived the my secretary and the your assistant
b. Sono arrivate la mia segretaria e la tua collaboratrice
have arrived the my secretary and the your assistant
"My secretary and your assistant arrived"

(22) a. È arrivata la mia segretaria e tua collaboratrice
has arrived my secretary the your assistant
b. *Sono arrivate la mia segretaria e tua collaboratrice
have arrived my secretary and your assistant
"My secretary and your assistant arrived"

However, the same data cannot be reproduced in Rumanian, where the article is enclitic on the noun and cannot be missing. The sequence with the repeated articles in (23a) is ambiguous between the two possible intepretations, one with a single referential index and one with two indexes. The sequence in (23b) where the second noun is not inflected for the definite article is excluded:

(23) a. Directorul de departament si presidentele de facultate a/au venit aici
director-the of department and president-the of faculty has arrived here
b. *Directorul de departament si presidente de facultate a/au venit aici
director-the of department and president-the of faculty has arrived here

19. For some speakers the sentence is acceptable in the irrelevant reading with the ellipsis of the second predicate *è arrivata*.

Longobardi's proposal to attribute a referential index to the definite article, therefore, can only account for the Italian free article and not for the enclitic Rumanian article.

The free vs. dependent nature of the article is not crucial for the interpretive properties of the definite article in the two Romance languages under consideration. On the contrary, the Rumanian definite article appears to have many features in common with the Italian article, despite the morphological difference between them.[20]

It is possible to give a unified account of the data in (21)-(23) by assuming that in neither language the article has a referential index but it a last resort application of Merge.

In Italian, the conjunction of two sequences of "art + possessive adjective + N" as in (21) involves the conjunction of two FP^{max}'s. Both FP^{max}'s have a Specifier which is not empty, but hosts a covert operator which carries an index, à la Campbell (1993). The two indexes are interpreted as disjoint according to principle C of the binding theory.[21] If

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20. In both languages, generic noun phrases must have a definite article, as shown in (i)-(ii); while indefinite noun phrases must have an indefinite article in subject position, but may have a null article in object positions, as shown by the contrast between (iii)-(iv):

(i) a. *(Le) brave ragazze sono sempre noiose.
b. Fete*(le) cuminti sînt totdeauna plictisitoare.
"Good girls are always boring."

(ii) a. Detesto *(le) brave ragazze.
b. Detest fete*(le) cuminti.
"I detest good girls."

(iii) a. *(Delle) brave ragazze abitano di fronte.
b. *(Nişte) fete cuminti stau alaturi.
"(Some) good girls live nextdoor"

(iv) a. Conosco (delle) brave ragazze.
b. Cunosc (nişte) fete cuminti.
"I know (some) good girls"

21. I am assuming here that principle C applies in coordinations, as appears to be the case:

(i) a. Sono arrivati [[Gianni]$_i$ e [[suo]$_{j/i}$ fratello]
b. Sono arrivati [[Gianni]$_i$ e il fratello di [quel disgraziato]$_{j/i}$].

the insertion of the article is a last resort kind of operation, it cannot apply when a single index is expressed, as in (22).

In Rumanian, the conjunction of the sequence "N+art + possessive noun phrase" in (23) can either be interpreted as a conjunction of two FP^{max}'s parallel to Italian (21) or as a conjunction of two F^{max}'s, parallel to Italian (22). In the former case, after each noun has checked its φ–features in F^{max}, a covert operator is merged in each Specifier. The result is the projection of two FP^{max}'s which are then coordinated, yielding the interpretation with two different (disjoint) indexes.

In the latter case, the enclitic article, being part of the morphological inflection of the noun, is inserted in both heads N without violating the last resort condition. "N+art" then checks the φ–features in F^{max}, the structure must get at least to the F' level. At this stage the two F's can be coordinated yealding a recursive F' node to which the covert operator is merged obtaining an FP with a single $SpecFP^{max}$ which contains a single covert operator.

So far, we have observed that in some languages, the multiple presence of the definite article does not give rise to multiple / disjoint interpretation. In what follows, we observe that the presence of the definite article is not always sufficient even to trigger referential interpretation.

In (24) the presence of a definite or an indefinite article is irrelevant for the interpretation of the noun phrase *la/una segretaria di un onorevole* which is in any case interpreted as non-referential, as shown by the subjunctive mood in the relative clause:

(ii) a. [[John]$_i$ and [his]$_{i/j}$ brother have just arrived.

b. [[John]$_i$ and [that bastard]$_{*i}$]'s brother have just arrived.

In (ia) and (iia) the possessive adjective in the second conjunct can refer to the noun phrase *Gianni, John* in the first conjunct. In (ib) and (iib) the R-expressions *quel disgraziato, that bastard* in the second conjunct cannot refer to the noun phrase in the first conjunct. This shows that in a coordination, a pronoun in the second conjunct can refer to a noun phrase in the first conjunct, while an R-expression must be free from it.

(24) Scommetto che non troverai mai [$_{FP}$ *la/una* segretaria [$_{PP}$ di **un** onorevole che sia disposta a testimoniare contro di lui]].
I bet you'll never find the/a secretary of a deputate who is-SUBJ willing to witness against him.

I propose that the indefinite interpretation of the relevant noun phrase in (24) is due to the fact that the possessive prepositional phrase *di un onorevole* is moved to SpecFP^{max} at LF to give the same configuration as the English *a deputy's secretary*. The indefinite interpretation then percolates from the possessive PP to the whole FP^{max}.

In support of the covert movement of the indefinite possessor and pied-piping of its features into the entire FP^{max} is the fact that the indefinite possessor is incompatible with a demonstrative which is a referential element in SpecFP^{max}, as in (25):

(25) *Scommetto che non troverai mai [$_{FP}$ *questa/quella* segretaria [$_{PP}$ di **un** onorevole che sia disposta a testimoniare contro di lui]].
"I bet you'll never find this/that secretary of a deputate who is-SUBJ willing to witness against him."

(24) also contrasts with (26) where the referentiality of the entire noun phrase is given by the referential possessive PP, the presence of which makes the noun phrase incompatible with the relative clause in the subjunctive mood:

(26) *Scommetto che non troverai mai [$_{FP}$ *la* segretaria [$_{PP}$ di **quell'**onorevole]] che sia disposta a testimoniare contro di lui]].
"I bet you'll never be able to find the secretary of that deputate who is-SUBJ willing to witness against him."

This is not the case in (27) which is introduced by an indefinite article which triggers an operator-variable interpretation and does not allow pied piping of the referential features of the possessor PP:

(27) Scommetto che non troverai [$_{FP}$ *una* (sola) segretaria [$_{PP}$ di **quell**'onorevole]] che sia disposta a testimoniare contro di lui]].
"I bet you won't be able to find a secretary of that deputate who is-SUBJ willing to witness against him."

In (26) the possessive PP *di quell'onorevole* must move to the Spec of the FP *la segretaria* for the whole FP to be interpreted, given that the definite article does not have an interpretive value. The referential interpretation of the possessor percolates to the entire FP, as argued above, and is therefore incompatible with the subjunctive mood, yielding an ungrammatical result. In (27), on the contrary, the interpretation of FP is that of the variable of a covert existential quantifier.[22] This blocks movement of the PP containing the referential noun phrase *di quell'onorevole*. FP is compatible with the subjunctive relative and the result is acceptable.

A completely different type of evidence in which the definite article is not sufficient to give a referential index to the noun phrase is the fact that in several languages the enclitic article appears with the function of realizing nominal φ-features. The Rumanian examples below are contrasted with the Italian counterparts to show that the Rumanian definite article *-ul* is in all respects a feature marker of masculine singular parallel to the Italian morpheme *-o*:[23]

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22. In this paper I will not take stand on the nature of the indefinite article, but elsewhere I have argued that the indefinite article is a marker for the partitive Case assigned by a covert quantifier. (Cf. Giusti 1995).

23. This phenomenon is very general and can be found with other quantifiers such as *tot(ul)* "all", *întreg(ul)* "whole", *vreun(ul)* "some", *alt(ul)* "[an]other", *mult(ul)* "much", *putin(ul)* "little".

(28)

Rumanian	Italian	
un(**ul*) bāiat	un(**o*) ragazzo	"a boy"
nici un(**ul*) bāiat	nessun(**o*) ragazzo	"no boy"
Am vāzut pe un*(*ul*	(ne) ho visto un*(*o*)	"I saw one"
N-am vāzut pe niciun*(*ul*)	non (ne) ho visto nessun*(*o*)[24]	"I saw none"
un*(*ul*) a spus cā	un*(*o*) ha detto che	"Somebody said that ..."
Nici un*(*ul*) a spus cā ...	un*(*o*) ha detto che	"Nobody said that ..."

In a number of languages articles appear in contexts in which they are not expected to realize case morphology. In (29a,b) we see a German generic mass noun which appears with no article in the accusative. But the noun phrase in dative in (29b) must have an overt definite article. The same happens when the noun phrase is in the genitive, as in (29c):

(29) a. Ich trinke gerne (**den*) Kafee.
"I like drinking coffee."

b. Ich ziehe (**den*) Kaffe *(*dem*) Tee vor.
"I prefer coffee to tea."

c. die Zubereitung *(*des*) Kaffees
"the preparation of coffee"

(29c) shows that the article in (29b) is not inserted to disambiguate the sentence. In (29c) no ambiguity would arise when the article were not present, but the article is still necessary.

So far we have seen that the presence of the article is not sufficient to give referential interpretation, but it is necessary to realize nominal φ-features such as gender, number

and case. Interestingly, the converse is also true: The presence of the article is not necessary for the referential interpretation of the noun phrase; while the article cannot be merged when the nominal φ-features are realized in another way, as exemplified in prepositional phrases in Rumanian.

We have already noticed in ftn. 20, that in Rumanian noun phrases, the article has the same distribution as in Italian generic and indefinite noun phrases. The same is also true for referential noun phrases which must have a definite article, as in (30a). In prepositional phrases, however, in which Case features are presumably recoverable from the preposition itself, the article must be missing, as in (30b) provided we have an unmodified noun phrase. If the noun is modified either by an adjective, as in (30c) or by a complement, as in (30d), the article is necessary again:

(30) a. Am citit scrisoare*(*a*)
"I read the letter."

b. Îţi mulţumesc pentru scrisoare(**a*)
"I thank you for [the] letter."

c. Îţi mulţumesc pentru scrisoare*(*a*) frumoasă
"I thank you for the beautiful letter."

d. Îţi mulţumesc pentru scrisoare*(*a*) de la Bucureşti
"I thank you for the letter from Bucarest."

From the data presented in this section, we can conclude that the definite article is neither sufficient nor necessary to trigger referential interpretation on the noun phrase. This implies that the article is not the element which carries the referential index of the noun phrase. This is not an unwelcome result since it is well-known that the distribution of articles is highly language-specific, while the distribution of semantic operators such as demonstratives or quantifiers is rather uniform across languages.

2.5 A bare phrase structure hypothesis

Up so far, I have argued that the definite article, regardless of its morphology, is under all respects a functional head in the extended projection of the noun phrase. As such, it is expected to comply with the properties of functional heads assumed in (A1)-(A2) above: it is realized either as a free dummy or as an inflectional morpheme, it is merged as a last resort, and it shares all the φ-features of the extended CHAIN.

Being a functional head in the extended projection of the noun, it can only trigger incorporation of the lexical noun. Incorporation of other lexical heads is not expected under a strict version of the Head Movement Constraint, which I maintain here. The apparent incorporation to adjectival heads will be treated in section 3.6.

In all the languages observed here, the article appears to be the highest element of the noun phrase. In a bottom-up procedure this is captured by assuming that it is merged as the last functional head in the extended CHAIN. I will follow here a radical version of the bare phrase structure hypothesis under which merge and move are interacting procedures, each immediately applying on the resulting derivation of the other. All local movements, specifically head-movements, are reduced to a single-step movement re-iterated after every application of Merge. If this approach is correct, we expect the enclitic article to be merged only in a configuration in which the immediately lower functional head is or contains the lexical head noun. This is actually the case, as Dimitrova-Vulchanova and Giusti (1998) have argued. Variation across languages is to be explained by independent properties of N-movement and its trigger. Let us focus on single cases.

In Norwegian, N can move across a possessive adjective, cf. Taraldsen (1990):

(31) a. mitt hus
b. huset mitt
"my house"

Taraldsen shows that the word order in (31b) is derived by the basic order (31a) and a further application of N-movement triggered by the presence of the enclitic article. In Giusti (1995), I observed that Taraldsen's proposal could not account for the different position of the adjective and the possessive pronoun in noun phrases such as (32a) and (32b):

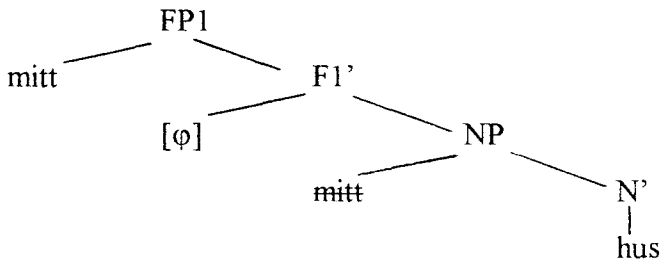
(32) a. mitt store hus
b. det store huset mitt
"my old house"

In (32a) the adjective follows the possessive, while in (32b) it precedes it. If (31a) was the base of (31b) we would expect the adjective in (32) to be in the same order with respect to the possessive pronoun. This criticism assumed Cinque's (1994) hypothesis on noun phrase structure, which is set in an X'-account in which all projections are labelled and present even if not lexically filled, and each element is generated in a given position and may move to a different one to check features. In a bare phrase structure framework, however, it is the filler which labels the projection and the structure is projected bottom-up.

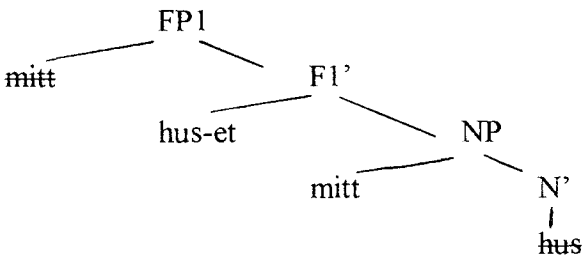
I maintain, following Brugè (this volume), that possessives are (universally) merged very early in the structure: I take it here to be in SpecNP for expository reasons. The possessive carries a referential index. It is therefore sufficient to qualify the noun phrase as an argument provided that it fills a functional Spec, according to assumption (A4). In (33a), the bare phrase structure of (31a), the possessive adjective is merged in SpecFP1. Alternatively, the possessive procrastinates movement to SpecFP1, SpecFP1 must therefore be merged although empty. The last resort to project a functional structure is to merge the enclitic article triggering N-movement, as in (33b), parallel to (31b). In this case SpecFP1 remains available for covert movement of the possessive pronoun, to yield

the same interpretation as (33a/31a):[25]

(33) a.



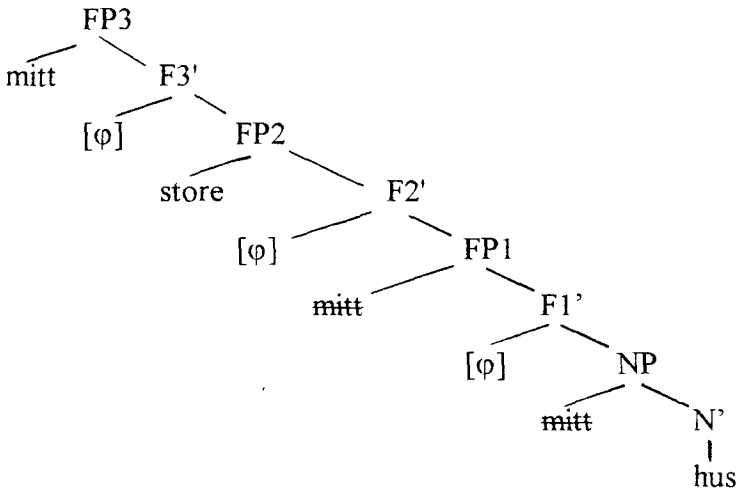
b.



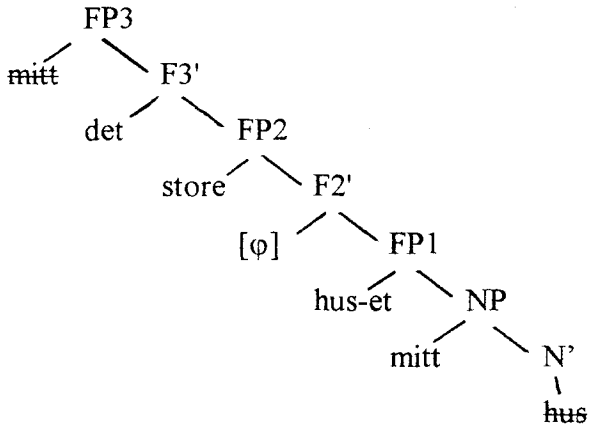
On top of FP1 adjectives are merged recursively as specifiers of additional functional projections. Each head is projected copying all the φ-features of the lexical head. The last application of Merge must create a functional Specifier where the referential index of the noun phrase is checked. If these operations apply to (33a), the possessive pronoun moves to the highest Spec thereby yielding (34a). If they apply to (33b), a free morpheme is inserted to fill the head of the highest functional projection, as in (34b), where the highest Spec remains available for covert movement of the possessive AP.

25. Procrastination of possessive movement is possibly related to the fact that N can move across it, yielding a configuration in which N not only agrees but also c-commands the possessive. These two phenomena go together in the languages considered here.

(34) a.



b.



The heads containing φ-features are present although not overt, given that the features are otherwise recoverable from the morphology in their specifier. This complies with assumption (A1).[26] N-movement to F3 is excluded by the fact that the head did not raise to F2 in the cycle where F2 was merged.

In Norwegian, enclitic *-et* must be listed in the lexicon as a property of the inflectional morphology of nouns. In definite noun phrases, in fact, it is always inserted regardless of the presence of the possessive. The free morpheme *det* must be listed in the

26. The ungrammatical string in (i) is excluded if we assume, as suggested in ftn. 25, that the possessive cannot procrastinate movement to SpecFP^{gr} if N has not moved across it:

(i) *det store mit hus

lexicon as the dummy to fill an F^{max}. (A2) can be refined to explain the contrast in (35):

(35) a. huset
b. *det hus
c. *det huset
"the house"

(35c) is already excluded by (A1). FP1 is already sufficient to satisfy all the interpretive requirements on the noun phrase and no further head can be projected to host the dummy *det*. (A2), as it stands, cannot decide between (35a) and (35b). In other words, we must introduce a hierarchy of optimal insertion according to which the enclitic article is preferred over the free article:

(A2') If a functional head is realized, the optimal realization is the morphologically weakest.[27]

Danish is minimally different from Norwegian in that the enclitic article cannot appear in the same extended head CHAIN with another overt functional head. In other words, it cannot function as an inflectional morpheme in an intermediate projection. This implies that if it is inserted, its specifier must contain the covert operator with referential index,

27. (A2) can be subsumed by a general "minimize structure" principle (cf. Cardinaletti 1994) if we extend Borer's (1997) proposal on the syntax-morphology interface to functional elements. According to Borer, a complex event nominal is derived in the morphological component by projecting the verbal head and then incorporating it into a nominal head. This complex nominal head is inserted in the syntax with the internal VP still able to assign the θ-roles to its arguments. But it behaves like other nominal heads in all other respects.

In the case under consideration here, the free morpheme *det* is formed by incorporating a root *d-* to the clitic *-et*. This procedure takes place in the morphology and not in the syntax, since *det* behaves as a simple head. However its insertion is less optimal than insertion of the enclitic *-et* since it has a more complex structure.

and no other application of Merge can apply, as in (36a). If adjectives are merged in the noun phrase, the only available functional head to realize the highest projection, is the free *det*, as in (36b), for the same reasons as in Norwegian above, namely to comply with locality:

(36) a. $[_{FP1}$ [hus-$[_{F1}$et]] $[_{NP}$ ~~hus~~]]
b. $[_{FP2}$ $[_{F2'}$ det $[_{FP1}$ store $[_{NP}$ hus]]]]

The crosslinguistic variation between Danish and Swedish can be reduced to a stricter application of (A1) in Danish.

Bulgarian (37) parallels Danish (36a). Differently from Danish, the Bulgarian lexicon has nothing like a free article. So, there is nothing like (36b) in Bulgarian:

(37) $[_{FP1}$ [momče-$[_{F1}$to]] $[_{NP}$ ~~momče~~]]

When the adjective is merged, the noun does not move to the newly merged functional head, as in the indefinite noun phrase (38a). Merging of the enclitic article in FP2 does not trigger N-movement. Given that head movement applies cyclically, N cannot reach F2 in (38b):

(38) a. $[_{FP1}$ goljamo FP1 $[_{NP}$ momče]]
b. $[_{FP2}$ -to $[_{FP1}$ $[_{AP}$ goljamo] FP1 $[_{NP}$ momče]]

The alternative is for AP to move to SpecFP2. The details of this procedure will be dealt with in 3.6.

Rumanian and Albanian show the exctly opposite situation. The noun is cyclically moved into the newly merged functional head. In Rumanian, the noun can precede a descriptive adjective. In our framework, this means that it moved to F1 in the previous cycle, as in (39a). In (39b), we observe that the noun can further move across the

demonstrative provided that an enclitic article is merged to project the relevant portion of structure:

(39) a. [$_{FP2}$ acest [$_{F2}$ băiat] [$_{FP1}$ [$_{AP}$ frumos] ~~băiat~~ [$_{NP}$ ~~băiat~~]]]

b. [$_{FP3}$[[băiat-[$_{F3}$ul]]][$_{FP2}$acesta [[$_{F2}$~~băiat~~][$_{FP1}$[$_{AP}$frumos][[$_{F1}$~~băiat~~][$_{NP}$ ~~băiat~~]]]]]]

In Albanian the noun must always move across the adjective:[28]

(40) a. [$_{FP4}$një [$_{FP3}$[$_{F3}$grua][$_{FP2}$tjetër [[$_{F2}$ ~~grua~~][$_{FP1}$[$_{AP}$e bukur][[$_{F1}$~~grua~~][$_{NP}$ ~~grua~~]]]]]]

b. [$_{FP3}$[[grua-[$_{F3}$ ja]]][$_{FP2}$tjetër [[$_{F2}$~~grua~~][$_{FP1}$[$_{AP}$e bukur] [[$_{F1}$~~grua~~] [$_{NP}$ ~~grua~~]]]]]]

The general observation that the enclitic article trigger N-movement only in those configurations in which the noun is in the head of the highest projection in the preceding cycle appears to be empirically true.

Let us finally analyse the Rumanian data in (30) above, where the article is not inserted if the noun is preceded by a preposition and has no modifier:

(41) a. [$_{FP1}$ [pentru] [$_{NP}$ scrisoare]]

b. [$_{FP3}$ [pentru] [$_{FP2}$ scrisoarea [$_{FP1}$ frumoasă [$_{NP}$ ~~scrisoare~~]]]]

In (41a), the preposition fills F^{max} and the derivation is complete. In (41b), a modifier is inserted in FP1. For the head F1 to be in a CHAIN with the relevant φ-features, the noun must move across it. This triggers insertion of the article in F2. Finally, the preposition is merged in F3.

It is beyond the goal of this paper to explain what makes it necessary for the head noun to move across modifiers in some languages and not in others.

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28. To simplify the structure, I assume that the indefinite marker *një*, which is optional, is in SpecFP3, but I have no claim on its actual position.

3. The Occupants of SpecFP^{max}

In various cases above, I have assumed without discussion that possessive adjectives and demonstratives are maximal projections in specifier positions, even in languages where they appear in complementary distribution with the article. This complementary distribution between a lexical head in F^{max} and an XP in SpecFP^{max} is derived by the interaction of assumption (A1), which disallows insertion of an overt element in a functional head if not necessary, and a general principle such as (42), proposed in Dimitrova-Vulchanova and Giusti (1998):

(42) Principle of economy of lexical insertion:
A functional projection must be licenced at all levels of representation by
a. Making the specifier visible
b. Making the head visible.

(42) is partly subsumed by the general theory of bare phrase structure, since a functional projection is built only if an XP is merged as its specifier or a functional element is merged in its head. (42a) and (42b) can be either disjoint or conjoint, in the former case it derives the "doubly-filled Comp Filter", when they are conjoint it accounts for Verb second structures and doubly filled Comp languages. The choice between the conjunction or the disjunction of the two conditions in (42) depends on the languages, on the projection and on the element in Specifier position.

With respect to our topic, we will see that (42a) and (42b) are disjoint in cases in which the possessive adjective or the demonstrative is in complementary distribution with the article; they are conjoint in those cases in which the possessive adjective or the demonstrative precedes the article. We will see below that the demonstrative and the possessive adjective are not the only categories to appear in SpecFP^{max}.

3.1. Demonstratives

In Giusti (1993, 1994a, 1997) I proposed, on comparative evidence, that demonstratives are maximal elements inserted in functional specifiers. For Rumanian, I argued for the maximal status of the demonstrative *acest(a)* on the ground that starting from a basic word order as in (43a), the demonstrative can only be crossed over by the head noun, as in (43b) and not by an adjective which is more certainly than the noun a maximal element, as in (43c):

(43) a. acest bāiat frumos
this boy nice

b. bāiatul (acesta) frumos
boy-the (this) nice

c. frumosul (*acesta) bāiat
nice-this (*this) boy
"this nice boy"

I also argued there that its basic position is immediately lower than the highest functional projection, on the basis of its obligatory second position shown by the contrast in (44):

(44) a. bāiatul acesta frumos

b. *bāiatul frumos acesta

However, Brugè (this volume) and Brugè and Giusti (1997) show that demonstratives are very low specifiers in a wide range of languages. The second position of the Rumanian demonstrative is also taken to be derived. But no motivation for this is given there. I will provide one in this section.

Let's compare Spanish and Rumanian. In (45), the order of the modifiers in one language is neither parallel to, nor a mirror image of the other:

(45) a. Spanish: el (ultimo) cuadro redondo este (*el) suyo
b. Rumanian: tabloul acesta rotund al său
"this round painting of his"

In Spanish (45a), the order is Art (...) > N > descriptive AP > Dem > possessive AP. In Rumanian (45b), the order is N+art > Dem > descriptive AP > possessive AP. There is a parallelism and two apparent differences. The parallelism is that the postnominal descriptive adjective is higher than the postnominal possessive adjective in both languages. The first difference is that the head noun in Spanish is in an intermediate position (it is preceded by the definite article and can be so by a prenominal adjective), while the head noun in Rumanian is the first element in the noun phrase. The second difference is that the demonstrative in Spanish is lower than all specifiers except the possessive adjective, while in Rumanian, it is the highest specifier, being the second element after the head noun inflected for the definite article.

Recall that in the framework adopted here, descriptive adjectives check their φ-features by Spec-Head Agreement with the local functional head. They have no need to move. The position of the descriptive adjective must be basic in the two languages. I assume that although functional projections are unlabelled, modifiers are merged in a given order. I follow Brugè (this volume) in taking the order found in Spanish (45a) and represented in (46a) to be the basic order across languages. (46b) presents a possible derivation: The FP including N+art and the demonstrative moves across the descriptive adjective. The resulting order is NP > poss.AP > dem.> descr.AP. This order is not found in Rumanian, as shown in (46c):

(46) a. descr.AP >dem. >poss.AP
b. $[_{FP6}$ $[_{FP4}$ $[_{FP2}$ **NP**$[_{FP1}$poss.**AP** ~~[NP]~~ $[_{FP3}$ **dem.** ~~$[_{FP2}$NP$[_{FP1}$poss.AP [NP]~~
$[_{FP5}$**descr.AP** ~~$[_{FP4}$ $[_{FP2}$NP$[_{FP1}$poss.AP [NP]~~ ~~$[_{FP3}$ dem. $[_{FP2}$NP$[_{FP1}$poss.AP [NP]~~

c. bāiatul sāu (**acesta frumos)
boy-the his this nice

The alternative is (46c) where the demonstrative moves to an intermediate position before moving to SpecFP^{max}. In (47a), the head noun moves cyclically, first across the poss.AP, then across the descriptive AP. At this stage, the demonstrative must move to FP4, as shown by the grammaticality of (47b) and the ungrammaticality of (47c). At this point the merging procedure can stop. In (47b) the demonstrative is in SpecFP^{max}, the noun phrase complies with (A4) no article is merged in this structure. However, an enclitic article can be merged to create a further projection, as the full structure in (47d). Merging of the article triggers further N-movement and the creation of a new Specifier position which must remain available for further movement of the demonstrative at LF. (47e) is excluded by (A1), according to which merging of the article is a last resort procedure. If dem is in SpecFP^{max}, the head F^{max} needs not be overt and thus cannot:

(47) a. [$_{FPmax}$ ~~dem.~~ [**N+art** [$_{FP4}$ **dem.**[~~N~~ [$_{FP3}$ **descr.AP** [~~N~~ [$_{FP2}$~~dem.~~ [~~N~~ [$_{FP1}$ **poss.AP** [~~N~~]]]]]]]]]
b. acest bāiat frumos al sāu
c. **bāiatul frumos acesta al sāu
d. bāiatul acesta frumos al sāu
e. **acest bāiatul (frumos al sāu)

Two open questions are left in the analysis of the pattern in (47): What makes movement of the demonstrative to the intermediate position necessary in (47d). And what makes merging of the article in (47d) necessary.

The former question is spurious in a bare phrase structure framework: demonstrative movement in (47b) is of the same kind as in (47d). Both are driven by (A4), namely by interpretive reasons. Rumanian is parallel to Italian and different from Spanish, in that demonstrative movement cannot procrastinate. Rumanian differs from Italian in the

nature of the article. The Rumanian enclitic article triggers N-movement, the Italian free article does not. As for the second question, Tasmowski-De Ryck (1990) convincingly argues that the two positions of the demonstrative have a different discourse interpretation: The prenominal position is thematic, while the postnominal one is rhematic. The merging of the article in (47d) is therefore necessary to trigger N-movement and the consequent rhematic interpretation of the demonstrative.

The unacceptability of (43c) above is still explained by the crucial assumption that the demonstrative must appear in SpecFP^{max} at the latest at the LF level. In (43b) the adjective inflected for the article occupies this position making it unavailable for checking of the demonstrative at LF.

Bernstein (1997) is an alternative to the present account in two respects: On the one hand, the complementary distribution of the demonstrative and the article is taken as evidence that the two elements compete for the same position. The demonstrative is thus taken to cliticize onto D. On the other hand, it is proposed that such movement does not apply in the case of non-deictic demonstratives as in (48):

(48) a. there's this guy
b. il y a ce gars

The demonstratives in (48), being non-deictic would not be in the highest specifier. Accoding to Bernstein they are preceded by an empty functional projection. This predicts that there be some word order differences between deictic and non-deictic demonstratives, at least in Romane languages where the noun moves across specifiers, contrary to facts.[29] Furthermore, in Romance languages indefinite singular noun phrases

29. Bernstein reports that Romance languages do not have non deictic demonstratives except French. This is not correct for Italian which makes massive use of them. In Italian, parallel to what Bernstein notices for French, they cannot occur with a reinforcer. The same is the case for Spanish, according to Brugè (this volume). Both Italian and Spanish may be considered to have the position of the non deictic demonstrative

cannot lack an article, as is also the case for plural indefinite noun phrases in subject positions. In Bernstein's framework, we would expect an indefinite article to precede the indefinite demonstrative. But this is never the case and the non-deictic demonstrative appears to be in complementary distribution with the article as well as with other determiners:

(49) a. C'è *(un) ragazzo nuovo che mi piace molto.
b. C'è (*un) questo ragazzo nuovo che mi piace molto.
There's this new guy who I like a lot

In the bare phrase structure analysis developed here there is no way to differentiate between a high position preceded by an empty functional head and the topmost position. I take this to be welcome, given that there is no syntactic effect to be noticed between the two positions. The different interpretation can be reduced to two different associations of lexico-semantic features to an element in a given language. In particular, the non-deictic interpretation is incompatible with a deictic reinforcer.

A functional head status for demonstratives has been argued against in section 2. above in comparison with the functional status of articles.[30] In the framework developed here the complementary distribution of the demonstrative and the article is dealt with by assuming a disjunction of the two conditions in (42). The assumption of the clitic-like

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so high that it cannot be crossed by N-movement. Unfortunately, Rumanian does not have the non-deictic demonstrative in either position.

30. This does not hold for French *ce* which displays many properties in common with clitics. However, it is still necessary to make a difference between a clitic or a weak element and a functional element filling a head in the extended projection. One important difference between these two categories is that the clitic is linked to an XP position with independent semantic properties; while the functional head is merged as a last resort and only realizes functional features. This difference is also present in Bernstein's analysis, in that it allows for movement of the demonstrative to SpecDP in those languages, e.g. Greek, where the demonstrative cooccurs with an article in D. However, in these languages the demonstratives are not morphologically "heavier" than e.g. in Italian.

status for demonstratives in languages such as Italian would not dispense with (42). Notice that in Italian demonstratives would be the only bisyllabic clitics and the only clitics to appear inside the noun phrase.

Summarizing: the demonstrative moves to a high functional specifier to pied-pipe its interpretive features to the noun phrase which contains it. This movement can procrastinate in some languages, cf. Spanish among many others, but it must take place while constructing the structure in others, among which Italian and Rumanian. The second position of the demonstrative in Rumanian is analysed here as the result of such movement and a further application of Merge to allow for the noun to cross the demonstrative and derive a rhematic interpretation of it.

The apparent second position of the demonstrative is not so language-specific as may appear at first sight. If we take functional prepositions to be part of the extended projection of the noun phrase, we must take demonstratives preceded by such prepositions as being in second position, cf. (14b) above in German and the parallel case in Italian (50b):

(50) a. Ci vediamo all'entrata della stazione.
b. Ci vediamo a quell'entrata laggiù.
"Let's meet at the entrance down there."

In 2.1. (3b) for Italian, in 2.3. (14b) for German, in 2.4. (30b) for Rumanian, I have hinted at the possibility to consider the prepositions inflected for the definite article as functional heads, parallel to simple articles with oblique case morphology. Whether they are obtained through successive merging of the two morphemes and then incorporation or through merging of a single morphologically complex head cannot be established here. In any case, the resulting complex head is in F^{max}. This is also the position of the preposition in (50b). The demonstrative is necessarily in the immediately lower SpecFP. According to (A4), it will covertly move to $SpecFP^{max}$.

3.2. possessive adjectives

Possessive adjectives are often considered determiners in Germanic languages. However, even in these languages, there are cases in which the two different elements can co-occur. This happens if the possessive is lower than the article. We have already observed and analysed the Norwegian case in (31) above. Let us observe now the case of German in (51):

(51) a. (*die) meine Frage
b. diese meine Frage

In (51a) we observe the unmarked case. In (51b) the noun phrase is emphatic. In (52a) the elliptic noun phrase consists of a possessive pronoun which displays strong inflection. In (52b) an article precedes the possessive adjective which displays weak inflection, typical of regular adjectives:

(52) Deine Fragen wurden beantwortet, ...
a. meine jedoch nicht.
b. die meinen jedoch nicht.
"Your questions were answered, mine however were not."

Up to this point I have maintained that if an element starts as an XP, it also moves as an XP, unless it is a weak element, parallel to clitics or weak pronouns. The possessive in German cannot be weak. Since we have found that it is an XP in some cases, I take it to be an XP in all cases. The apparent complementary distribution with the article can be reduced to an either/or choice of principle (43) above.[31]

31. This is not to deny that in some languages, e.g. Spanish (cf. Picallo 1994) possessive adjectives may be clitics, namely behaving in some respects like heads. However, if the possessive adjective is a clitic, it is a functional element which originates in a maximal projection in a Specifier position, and further moves into a

A SpecFP^{max} position can also be argued for in the case of possessive adjectives modifying kinship terms in Italian. In (53), it is a property of the noun which puts possessive adjectives in complementary distribution with articles, and not a property of the adjective itself which remains the same in all cases:

(53) a. (*la) sua madre
b. %(la) sua mamma
c. *(la) sua (amata) madre (adorata)
"his/her dear mother"

In (53b) the article is ungrammatical when the possessive adjective modifies the noun *madre*. In (53b) the situation changes with the noun *mamma* with the same meaning but more colloquial than *madre*. Here the presence of the article is allowed only in northern regional varieties, while it is excluded in other regional varieties and in the standard. In (53c) the noun *madre* is further modified by an adjective (regardless whether it is pre- or post-nominal) and the article becomes obligatory again.[32]

First of all, we must admit that this is a property of a closed class of lexical items which includes only some kinship terms, e.g. *madre*, *padre*, *fratello*, *sorella*, *zio/a*, *cugino/a*, *nonno/a*, *cognato/a*, *suocero/a* but not *mamma*, *papà*, *fratellastro*, *sorellastra*, *patrigno*, *matrigna*, *consuocero/a*, *prozio/a*, *bisnonno/a*, as well as their diminutive counterparts such as *mammina* (in the variant where *mamma* patterns with *madre*), *sorellina*, *nonnetta*, *zietta*, etc.:

(54) a. (*la) mia sorella

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functional head of the structure and never a purely functional head. For possessive clitics also cf. Cardinaletti (1999).

32. Recall that merging of the article was made necessary by the presence of an adjective in Rumanian prepositional phrases in (30) above.

b. *(la) mia sorellina

Second, it takes place only in case no other modifier than the possessive adjective is inserted, as shown in (53c). This latter property suggests that the structure of (53a) and (54a) is minimal. Possibly limited to one functional projection. This may be due to a particular property of these nouns which assign a particular θ-role in SpecNP. Merging the possessive adjective in SpecFP1 satisfies every requirement of the noun phrase. But if a further adjective is inserted, as in (53c), the usual structure is projected to allow partial N-movement. In this case, the noun phrase has the same structure as other common nouns and merging of an article is necessary. In the cases of other kinship terms which do not display the property of discharging the θ-role in SpecNP, the result is the same as other common nouns.

Possessive adjectives are not the only adjectives which can carry referential features and therefore be moved to SpecFP^{max}. Delsing (1993:118-9) presents a list of referential adjectives in Scandinavian which trigger apparent optional article insertion when they modify certain nouns:

(55) (*den*) franska revolution*en*, (*den*) svenska kyrk*an*, Svarta Hav*et*, Vita Hus*et*,
(the) French Revolution-the, (the) Swedish Church-the, Black Sea-the, White House-the
(*det*) sista par*et*, (*den*)tredje gång*en*, (*den*) yttre/inre säng*en*, (*den*) västra sid*an*,
the last pair-the, the third time, the outer/inner bed-the, the western side-the,

In the framework adopted here the article cannot be optional, given that it is a last resort procedure. The noun phrases in (55) must have two different structures one in which the article cannot be inserted and one in which the article must be inserted. The former is parallel to the analysis proposed for Italian kinship terms modified by possessive adjectives, the other is the structure for common noun phrases.

3.3. Personal pronouns

Postal's (1969) seminal work drew attention on the possibility for personal pronouns to introduce noun phrases. In our framework we may wonder whether they are functional heads or Specifiers. In Giusti (1997) I argued for the latter hypothesis.

In Italian (56a) the pronoun is in complementary distribution with an article, but this is not the case in Rumanian (56b):

(56) a. Voi (*i) professori credete che sia facile ma per noi (*gli) studenti è difficile.
b. Dumneavoastrā profesori*(i) credeţi cā e uşor, dar dupā noi elevi*(i) eşte greu.[33]
"You professors believe that it is easy, but for us students it is difficult."

It is crucial to establish whether we are dealing with two instances of the same construction and what this is. Cardinaletti (1994) argues for Italian, and this could be straightforwardly extended to Rumanian, that pronouns are full noun phrases and that the following nominal is in a sort of predicate position. (57a) would be parallel to (57b), on the ground that the two noun phrases behave similarly with respect to some tests:

(57) a. noi/voi linguisti
b. i miei amici linguisti

I follow Cardinaletti in taking the two strings in (57) as two instances of the same construction. I also agree with her to analyse strong pronouns as full noun phrases. But I depart from her line of reasoning where this is taken to be evidence for an adjunction construction, extending the parallelism to other cases of multiple occurrences of nouns and/or proper names in a single noun phrase with a single referential index, such as those

33. The Rumanian example is taken from Lombard (1974:96).It is interesting to notice for the sake of the following discussion that, although Lombard poses the nouns following the pronouns in commas, he explicitly remarks that this is not obligatory.

discussed in section 3.4. below.

The framework developed here provides a straightforward explanation to the contrast between Italian and Rumanian in (56) above, provided that we assume a rather costless stipulation: In Rumanian, Merge of the pronoun is not sufficient to make the extended projection of the noun phrase visible, while in Italian it is. The two conditions in (42) must be conjoint in Rumanian, while they must be disjoint in Italian.[34]

If pronouns carry the referential index of the noun phrase, they are expected to be in complementary distribution with demonstratives in the two languages, as in (58):

(58) a. *noi questi ragazzi
b. *noi aceşti băieti / *noi băietii aceştia
we these boys

Furthermore, if noun phrases are 3rd person by default, we expect that "Minimize structure" should prevent insertion of 3rd person pronouns, as is the case:

(59) a. *loro linguisti/e
b. *essi/esse linguisti/e
they linguistist

3.4. Proper names

Proper names have many properties in common with demonstratives. Longobardi (1994) derives (60b) from (60a) by head movement of the lexical noun into D. He does not discuss the case of complex noun phrases such as those in (60c) or in (61a) below:

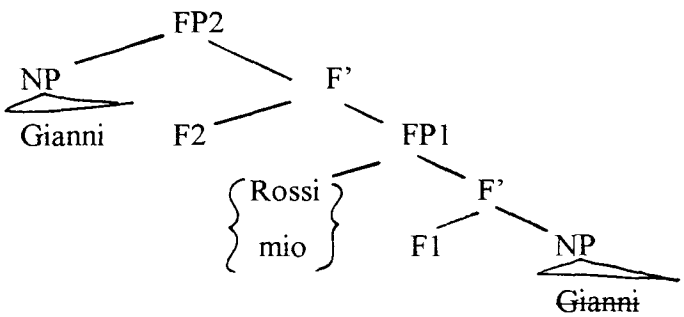
34. Hopefully, this stipulation can be accounted for by a deeper study of the morphologic realization of φ-features in articles and pronouns in the two languages.

(60) a. il mio Gianni
b. Gianni mio
c. Gianni Rossi
d. Francesco Maria Finzi Contini

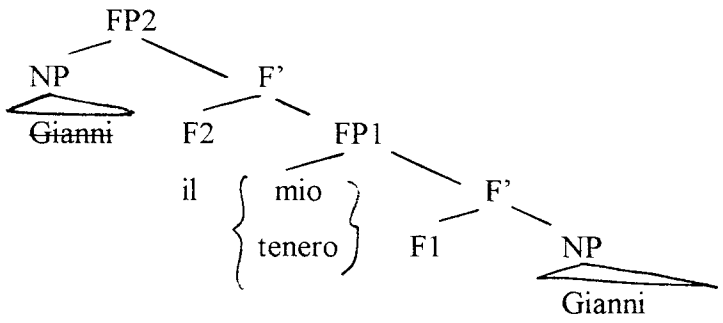
I propose that (60c,d) are in all respects parallel to (60b).

Reformulating Longobardi's proposal in our bare phrase structure framework, we must face a problem: In (61) the lexical head *Gianni* projects a maximal projection in whose specifier the possessive adjective *mio* is merged. A functional projection is therefore merged to create at least the functional specifier which is the locus of interpretation of the whole noun phrase. The functional head is filled by the definite article showing that the Specifier is either empty or covert. The covert element cannot be the empty operator assumed for referential common nouns above, since proper names have different interpretive properties. The assumption of two different covert operators would be quite stipulative and could not explain how speakers can differentiate between the two. We are left either with Longobardi's proposal that the head noun covertly moves to D by substitution (which also appears rather stipulative) or with a natural alternative, namely that the whole NP is moved into the Spec of FP2, overtly in (61a), covertly in (61b). In the former case the article is not inserted:

(61) a.



b.



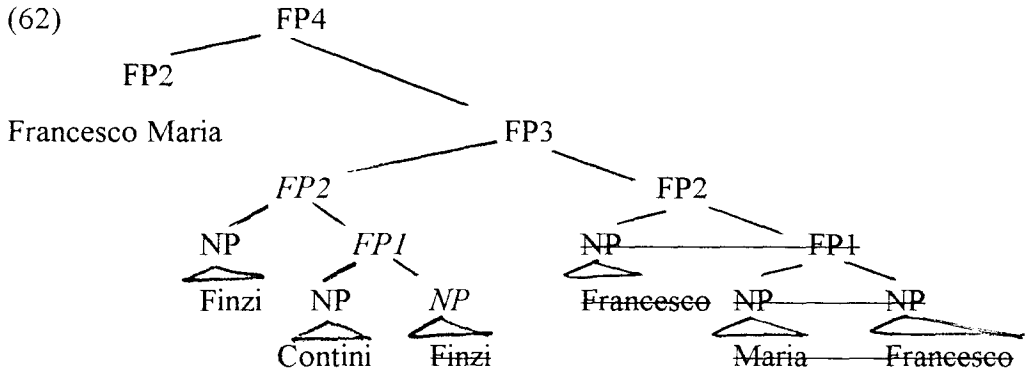
In (61a), the proper name is minimal and maximal at the same time and it is labeled NP.[35] A modifier is inserted in FP1, which can either be a further specification of the name or a possessive adjective (the lowest adjective in the hierarchy). Then the proper NP must raise to escape the cycle. A functional projection (FP2) is created by this application of Move. At this point in the derivation nothing else is necessary: the highest Spec has an index and that is sufficient to make the noun phrase interpretable at LF. Alternatively, the NP may remain in place and procrastinate movement when the modifier is the family name, obtaining *Rossi Gianni*. In this case too, nothing else needs to be done, since the family name also carries a referential index. The extended projection would stop at FP1 in (61a).

A possessive adjective in Italian cannot function as a referential operator, so either the NP moves across it, as in (61a), or a definite article is inserted to allow the NP to procrastinate this movement until later, as in (61b). I leave open the question of what prevents NP movement when a descriptive adjective is present.

The case in (60d) is a cyclical application of the operations in (61a), as in (62):

35. This is motivated by the fact that the proper name bears itself the R-relation which is in SpecNP in all noun phrases, according to Higginbotham (1987). The proper name is N^{min} and an N^{max} at the same time.

(62)



In (62), first the complex first name *Francesco Maria* is created in FP2, then a complex family name *Finzi Contini* is merged with the same structure, which is labeled in italics to distinguish it from the structure of the first name. Finally the whole projection FP2 containing the proper name is merged to a higher specifier to give the referential index to the entire noun phrase, yielding *Francesco Maria Finzi Contini*. If this last movement does not apply, the referential index would be given by the last name, obtainig the string *Finzi Contini Francesco Maria*, which is typical of the burocratic style.

3.5. Apparent adpositions

Now we can go back to the problem presented by complex noun phrases such as (63a) pointed out in Cardinaletti (1994). I propose to extend the analysis given for complex proper names in (62) above to all complex noun phrases in (63):

(63) a. i miei amici linguisti
b. Giovanni il giardiniere ("John gardener")
c. il dottor Gianni Rossi ("doctor G.R.")
d. la zia Vittoria ("aunt V.")

An adposition analysis of the strings in (63) is excluded by the observation that they are not pronounced with comma intonation. The comma intonation is possible but not with

all strings. Furthermore, it blocks vowel deletion and, crucially, produces a rather different interpretation, as expected if the second noun phrase is a predicate of the first.

Comma intonation is excluded for (64a,d), in (63c) the noun *dottor* is interpreted as an academic title, while in (64c) *dottore* is interpreted as the professional title "medical doctor" (as when no proper name is present at all) and does not delete the final vowel. Deletion of the epenthetic vowel of the article also takes place in fast speech in (63b) but not in (64b):

(64) a. *Francesco, Maria, Finzi, Contini
b. Giovanni, il giardiniere,
c. il dottor*(e), Gianni Rossi,
d. *la zia, Vittoria,

I take this to be evidence that the noun phrases in (63) are not formed by a predicative adposition, while those in (64) are.[36]

The proposal developed here provides a framework to merge a number of maximal projections as specifiers of the head noun. Let us start from the cases which display a definite article, since we have argued above for a specific position inside the noun phrase structure universally, namely the highest functional head in the extended projection of the noun phrase. In (63b), the proper name *Giovanni* must be a maximal projection in the specifier of the article. As a proper name it carries a referential index. This index is pied piped onto the entire noun phrase. (63c,d) display exactly the opposite case. Here the lexical head of the extended projection is the proper name and the common noun is a qualifying modifier. These proper names are thefore preceded by the definite article, parallel to proper names modified by a descriptive adjective, as in (65):

36. I will leave open here what the actual structure of the adpositional construction is.

(65) a. il tenero Giacomo
"sweet Jakob"
b. l'antipatica Maria
"obnoxious Mary"

In (65), the head of the construction is certainly the proper name. The head of the construction in (63) can be determined following the intuition of the speaker: In (63a), repeated as (66a), it is *amici*. It is possible to construct a parallel case with the head noun *linguisti* obtaining a different word order, as in (66b). The pronominal position of the possessive is prefered when it refers to the head noun, as shown by comparing (66a) with the less acceptable (66c); while the postnominal possessive is prefered for the modifier noun phrase, as shown by comparing (66b) with the less acceptable (66d):

(66) a. i miei amici linguisti
b. i linguisti amici miei
c. ?gli amici miei linguisti
d. ?i linguisti miei amici

Other orders are unallowed. (67a) shows that the modifier noun phrase is merged very early in the structure even earlier than the possessive adjective. (67b) show that the head noun must move across its noun phrase modifier:

(67) a. *gli amici linguisti miei
b. *i miei linguisti amici

The early merging of the noun phrase modifier can be due to the slightly different properties of agreement for nouns and adjectives. For example a modifier noun phrase may in marginal cases display gender features different from the head noun, as in: *la mia amica medico* ("my friend-FEMM doctor-MASC"). In a bottom-up procedure, each

newly projected functional head is identical to the lower one. Once the features triggering adjectival agreement are projected, no noun phrase modifier can be inserted. The noun phrase modifier must therefore be projected before the adjectival agreement projection is started. This excludes (67a) where the possessive is lower than and therefore merged before the modifier noun phrase. (67b) is excluded by the general principle that triggers partial N-movement in Italian.

3.6. *Adjectives inflected for definiteness*

As we have observed in examples in (5)-(8) above, languages that display prenominal adjectives in indefinite noun phrases, do so in definite noun phrases as well, regardless of the presence of the definite article. If the adjective is prenominal in the Balkan languages represented in (68) the article appears on the adjective:

(68) Albanian a. e bukur*a* vajzë
the nice-the girl

Bulgarian b. goljamo*to* momče
big-the boy

Rumanian c. frumos*ul* bāiat
nice-the boy

Grosu (1988) notices for Rumanian that head-movement of the adjective would incorrectly predict that the adjective would precede its adverbial modifier, as in (69b). But the enclitic article on the adjective does not change the canonical word order with the adverbial preceding the adjective, as in (69a). The same is the case in Albanian (70) and Bulgarian (71), as observed in Dimitrova-Vulchanova and Giusti (1998):

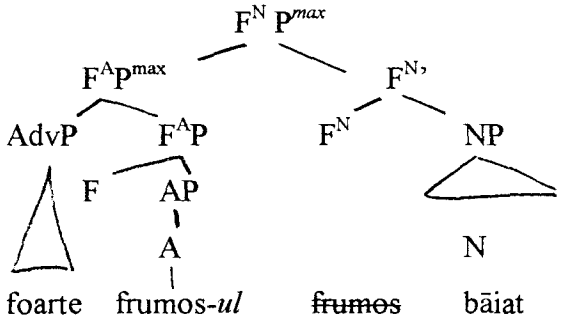
(69) Rumanian a. foarte frumos*ul* bāiat
very nice-the boy
b. *frumos*ul* foarte bāiat

(70) Albanian a. shumë e bukur*a* vajzë
very the nice-the girl
b. *e bukur*a* shumë vajzë

(71) Bulgarian a. mnogo goljamo*to* momče
very big-the boy
b. *goljamo*to* mnogo momče

Rephrasing the analysis proposed in Dimitrova-Vulchanova and Giusti (1998) in the framework developed here, I propose the structure in (72) where the leftmost adjective[37] is merged in SpecFP^{max} already inflected for the definite article:

(72)



a. foarte frumos-*ul* ~~frumos~~ bāiat
b. shumë e bukur-*a* ~~e bukur~~ vajzë
c. mnogo goljamo-*to* ~~goljamo~~ momče

37. Bulgarian is the only language in which the prenominal position of adjectives is the only possibility. Albanian hardly bares one prenominal adjective, as will be discussed in detail below. Rumanian prefers postnominal adjectives, like other Romance languages. However, if two prenominal adjectives are construed, only the leftmost one bears the definite article:

(i) Prime*le* frumoase(**le*) fete
first-the beautiful girls

The AdvP is in Spec$F^{A}P^{max}$ only for expository reasons. The only claim on the internal structure of the extended projection of the adjectival phrase here is that the enclitic article is an inflectional morpheme of the adjective. It is therefore not in the extended projection of the noun phrase.

This hypothesis makes two correct predictions: First, if the prenominal adjective can have a complement the inflection still appears on the adjective. Second, if the prenominal element is a conjunction of adjectives, the inflectional morphemes appears in both. These two facts could not be captured in the alternative hypothesis which assumes the enclitic article to be in F^{N}.

In Bulgarian, as well as in other Slavic languages, it is possible for a prenominal modifier to display a complement. Let's compare the Bulgarian facts in (73) with the English Saxon Genitive in (74):

(73) a. *[[mnogo vernij na zena si][-at [muz]]]
b. [[mnogo vernij- at na zena si] [[muz]]]
very true -the to wife his man
"the man very true to his wife"

(74) a. [[the man I met yesterday] ['s [hat]]]
b. *[[the man's I met yesterday] [[hat]]]

In the (73a) and (74a), the highest functional head of the noun phrase contains the relevant weak morpheme. In English this yields a grammatical structure. In Bulgarian this results in ungrammaticality. In the (73b) and (74b), the weak morpheme is internal to the adjectival phrase. This is grammatical in Bulgarian and ungrammatical in English.

This contrast can be explained by (A2) which favors dependent morphemes over free ones to realize functional heads. English has a very poor inflectional morphology. In other words, it is very poor of dependent morphemes. The English *'s* is phonologically

dependent but morphologically a free, it is merged in the Genitive assigning functional projection which is also FP^{max} in the English noun phrase, due to the fact that the noun phrase in its specifier pied-pipies its referential value onto the entire FP^{max}. In Bulgarian, the noun is not moved across its modifier, the only possible way to insert an inflectional morpheme to realize the referential features of the noun phrase is to do so inside the extended projection of the adjective.

Coordination is a further argument in favour of the analysis in (72). If $SpecF^{N}P^{max}$ hosts a coordinated structure, (72) predicts that the inflectional morphology appears on both coordinated adjectives, as in (75a) and (76a); while the alternative analysis which places the inflectional morpheme in F^{n} wrongly predicts that the inflectional morpheme is only one and it appears on the second conjoint adjective, as in (75b) and (76b):[38]

(75) Rumanian a. frumoase*le* si bune*le* fete
beautiful-the and good-the girls
b. *frumoase si bune*le* fete
c. *frumoase*le* si bune fete

38. Bulgarian presents neither of the expected orders, indicated in (ii)-(iii). Instead we find (i) where the article appears on the first conjunct:

(i) nova-*ta* i interesna kniga
new-the and interesting book
(ii) *nova-*ta* i interesna-*ta* kniga
(iii) *nova i interesna-*ta* kniga

The ungrammaticality of (iii) is crucial for our point here. Notice that the position of the enclitic article in the presence of a complement of the adjective in Bulgarian was our first piece of evidence in favor of (72).

(i) can also be explained in terms of (72) with additional assumptions independently necessary of other conjoined structures. I refer the reader to Dimitrova-Vulchanova and Giusti (1998:344) for a discussion of this property of Bulgarian.

(76) Albanian a. e gjor*a* dhe e vogl*a* vajzë
the poor-the and small-the girl
b. *e gjor*a* dhe e vogël vajzë
c. *e gjorë dhe e vogla vajzë

3.7. Conclusions

In this section, I have motivated the assumption formulated in (A4) according to which SpecFP^{max} is the locus of the interpretation of the referential value of the noun phrase at LF. This assumption grounds two claims made here. One is stated in (H2) above and regards the categorial status of demonstratives as maximal projections. The other is complementary to (A1) according to which insertion of the article is a last resort. Insertion of the article is necessary if SpecFP^{max} must be projected but it is either empty (because it must be available for movement of an XP at a later stage of the derivation) or covert (as in the case of the covert operator proposed by Campbell (1993)). If neither of these conditions is met, no article is needed.

4. Final Remarks

In this paper I have argued against a unified treatments of determiners but in favour of a principled treatment of functional heads in the extended projection of the noun phrase. One of these functional head is the article crosslinguistically. I have proposed that functional elements are never inserted for semantic reasons, since they have no semantic content. As a consequence, heir insertion is a last resort procedure.

Demonstratives are different from articles and similar to other modifiers of the noun which provide referential features to the noun phrase. Among these, we can mention possessive adjectives, referential adjectives, possessive noun phrases and proper names. These elements contribute semantic content to the noun phrase and are maximal projections. The apparent complementary distribution of articles and these other

elements is derived by the last resort nature of article insertion.

If this study is correct in its essentials, it offers a more radical way to look at functional elements as the realizazion of features of the lexical head of their extended projection. In an economy framework their realization is expected to be highly limited.

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Korean Adverbs

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1. Introduction

In this paper, I will examine certain aspects of the distribution of Korean adverbs, in the light of Cinque (1999). Cinque (1999) shows that different classes of AdvPs in Romance languages enter into a fixed order, and argues that this ordering holds universally across languages, despite certain apparent counterexamples. He also shows that each class of AdvP is located in the unique specifier position of distinct maximal (functional) projection. In this paper, I will consider the ordering and distribution of Korean AdvPs, which appear to support the existence of universal fixed ordering of AdvPs (Their rather free distribution in a clause can be shown to be due to different types of movement). The paper is organized as follows: in section 2, I consider Korean lower AdvPs, and in section 3, higher AdvPs. This paper will be more a descriptive study of Korean adverbs than a theoretical analysis of them.

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2. Lower AdvPs in Korean

2.1. Order

Cinque (1999) shows that there is a rigidly fixed ordering of AdvPs in Romance by considering the relative order of any two pairs of them. His order of lower AdvPs is as the following (1).

(1) solitamente(usually) > mica (negative adverb) > già (already) > più (any longer) > sempre (always) > completamente (completely) > tutto (everything) > bene (well)

Now, let's consider those lower AdvPs which have traditionally been classified as VP adverbs in Korean. I will simply list the pairs of sentences that show a rigid order between two adverbs, although it might be boring. Habitual adverbs like 'taykay, potong (usually)' should precede frequentative adverbs 'cacwu, congcong (often)':

(2) a. Yelumey, Celswu-ka *potong cacwu* padaey kanta.
In the summer, Celswu usually often to the sea go.
b. * Yelumey, Celswu-ka *cacwu potong* padaey kanta.
In the summer, Celswu often usually to the sea go.
('taykay, potong (usually)' > 'cacwu, congcong (often)')

The adverbs 'cacwu, congcong (often)' precede the adverbs 'imi, pelsse (already)':

(3) a. Mayil 8si kyengimyen, Celswu-ka *cacwu imi* pap-ul mekessessta.
Everyday 8 o'clock-around, Celswu often already meal has eaten.
b. * Mayil 8si kyengimyen, Celswu-ka *imi cacwu* pap-ul mekessessta.[1]
Everyday 8 o'clock-around, Celswu already often meal has eaten.
('cacwu, congcong (often)' > 'imi, pelsse (already)')

---

[1]. This order might be possible in the following reading: Every morning at 8, Celswu already has eaten his meal pretty often, e.g. three or four times (every morning).

Given that 'taykay, potong (usually)' precede 'cacwu, congcong (often)' and 'cacwu, congcong (often)' precede 'imi, pelsse (already)', we would expect 'taykay, potong (usually)' to appear before 'imi, pelsse (already)' by transitivity, which is a correct expectation:

(4) a. 8 shimyen, Celswu-ka *potong imi* il-ul sicakhayssta.
At 8, Celswu usually already work has begun.
b. * 8 shimyen, Celswu-ka *imi potong* il-ul sicakhayassta.
At 8, Celswu already usually work has begun.

Now, the adverb 'imi, pelsse (already)' necessarily come before 'te isang (any longer)':

(5) a. Ku-ka *imi te isang* kenye-lul an[2] kuliwehanta.
He already any longer her not misses.
b. * Ku-ka *te isang imi* kenye-lul an kuliwehanta.
He any longer already her not misses
('imi, pelsse (already)' > 'te isang (any longer)')

The adverb 'hangsang (always)' follows 'te isang (any longer)', 'imi, pelsse (already)', and 'taykay, potong (usually)' as can be seen in (6) - (8).

(6) a. Ke ihwulo, Celswu-ka *te isnag hangsang* mos ikinta.
Since then, Celswu any longer always cannot win.
b. * Ke ihwulo, Celswu-ka *hangsang te isang* mos ikinta.
Since then, Celswu always any longer cannot win.
('te isang (any longer)' > 'hangsang (always)')

---

2. The negative adverb 'an' will be discussed below.

(7) a. Mwunce-ka sayngkimyen, Celswu-ka *imi hangsang* tatcehanun pep-ul alkoissta.
A problem arises, Celswu already always how-to-act knows.
b. * Mwunce-ka sayngkimyen, Celswu-ka *hangsang imi* tatcehanun pep-ul alkoissta.
A problem arises, Celswu always already how-to-act knows.
('imi, pelsse (already)' > 'hangsang (always)')

(8) a. Celswu-ka *potong hangsang* olhta.
Celswu usually always right.
b. * Celswu-ka *hangsang potong* olhta.
Celswu always usually right.
('potong, taykay (usually)' > 'hangsang (always)')

So far, the relative order of AdvPs is as the following (9).

(9) potong (usually) > cacwu (often) > imi (already) > te isang (any longer) > hangsang
(always)

Now, let's consider the position of the adverb 'pangkum, kumbang (just)'. The adverb 'pangkum(just)' follows the adverb 'hangsang (always)':

(10) a. Nay-ka ke-lul mannalttaymata, ke-nun *hangsang pangkum* oykwukeyse tolawassta.
I him meet-whenever, he always just abroad-from returned.
b. * Nay-ka ke-lul mannalttaymata, ke-nun *pangkum hangsang* oykwukeyse tolawassta.
I him meet-whenever, he just always abroad-from returned.
('hangsang (always)' > 'pangkum (just)')

The adverb 'pangkum (just)' precedes the adverb 'wancenhi (completely)':

(11) a. Celswu-ka *pangkum wancenhi* keuy cwuso-lul icepelyessta.
Celswu just completely his address forgot.
b. */?? Celswu-ka *wancenhi pangkum* keuy cwuso-lul icepelyessta.
Celswu completely just his address forgot.
('pangkum (just)' > 'wancenhi (completely)')

By transitivity, the adverb 'hangsang (always)' necessarily precedes the adverb 'wancenhi (completely)' as can be seen in (12):

(12) a. Celswu-ka *hangsang wancenhi* caki maum-ul Swuni-eykey ppayasskyessta.
Celswu always completely self's mind Swuni-to lost.
b. */?? Celswu-ka *wancenhi hangsang* caki maum-ul Swuni-eykey ppayasskyessta.[3]
Celswu completely always self's mind Swuni-to lost.
('hangsang (always)' > 'wencenhi (completely)')

Consider now the position of (unstressed) manner adverbial 'cal (well)' and 'calmos (poorly)'. They seem to follow the adverb 'wancenhi (completely)'.

(13) a. Celswu-ka ke cayk-ul *wancenhi acu cal* ihayhayssta.
Celswu the book completely very well understood.
b. */?? Celswu-ka ke cayk-ul *acu cal wancenhi* ihayhayssta.
Celswu the book very well completely understood.
('wencenhi (completely)' > 'cal (well)')

---

[3]. The order in (12b) sometimes sounds OK. However, in this case, I think that 'wencenhi (completely)' is in the specifier position of AdvP headed by 'hangsang (always)', because there is a reading that can be noticed from 'keuy hangsang (almost always)' vs. 'wencenhi hangsang (completely always)' in this case.

Finally, let's consider the relative order of negative adverb 'an'[4]. In Italian, a negative adverb like 'mica' comes between 'usually' and 'already' (cf. Cinque (1999)). However, in Korean, negative adverb has to appear very low. See examples in (14) - (16).

(14) a. Twusiey, Celswu-ka *potong* acik *an* mekessessta.
2 o'clock-at, Celswu usually yet not has-eaten.

b. i. * Twusiey, Celswu-ka acik *an potong* mekessessta.
2 o'clock-at, Celswu yet not usually has-eaten.

ii. * Twusiey, Celswu-ka *an* acik *potong* mekessessta.
2 o'clock-at, Celswu not yet usually has-eaten.

(15) a. * Pap-ul *an imi(pelsee)* mekessumyen, kekes mekela.
Meal not already has-eaten-if, it eat.

b. Pap-ul *imi(pelsse) an* mekessumyen, kekes mekela.
Meal already not has-eaten-if, it eat.

(16) a. * Celswu-ka ke cayk-ul *an wencenhi* ilkessta.
Celswu the book not completely read.

---

[4] Korean has two types of negation. One is the preverbal or short form negation and it is constituent negation ((i)). The other is the postverbal or long form negation and it is sentential negation ((ii)).

(i) John-i ppang-ul an mekessta (John bread not eat-Tense-Mood)

(ii) John-i ppang-ul mek-ci an haessta (John bread eat not do-Tense-Mood)

These two types of negation show different scopal behavior, suggesting that they occur in two hierarchically different NegPs. It is argued in Lee (1999) that only short form negation related 'an' is XP, i.e. adverbial NegP. The negative adverb 'an' discussed below is the short form negation related one. For details on Korean negation, see Hagstrom (1997) and Lee (1999).

b. Celswu-ka ke cayk-ul *wencenhi an* ilkessta.
Celswu the book completely not read.

As can be seen in (15) and (16), the Korean negative adverb 'an', unlike Italian, cannot precede 'imi (already)' and 'wencenhi (completely)'. Now, what might be the relative ordering between 'cal (well), calmos (poorly)' and 'an (not)'? Consider the examples in (17).

(17) a. * Celswu-ka swul-ul *an* (or *mos*[5]) *cal* masinta.
Celswu alcohol not well drinks.
b. Celswu-ka swul-ul *cal an* (*mos*) masinta.
Celswu alcohol well not drinks.
('cal (well)' > 'an (not)')

The sentences in (17) show that negative adverb 'an' is located lower than manner adverbial 'cal (well)'. That is, Korean negative adverb is placed very low, unlike Italian 'mica'. Cinque (1999) mentions the possibility of two or more NegPs in a phrase structure. I suggest that Korean negative adverb occupies the hierarchically different position from 'mica' in Italian, and it is located in a lower NegP.

We now have the following relative order of lower AdvPs in Korean, which is almost completely the same as that found in Romance languages.

(18) potong (usually) > cacwu (often) > imi (already) > te isang (any longer) > hangsang
(always) > pangkum (just) > wancenhi (completely) > cal (well), calmos (poorly) > an(i) (not)

---

5. The negative adverb 'mos' can appear in the same context as 'an', with more restricted meaning 'unable'.

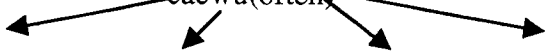
2.2. Distribution

In this section, I will consider the distribution of lower AdvPs in Korean. In fact, Korean lower AdvPs show quite free distribution. They can appear sentence initially, sentence finally, before object and verb, and between object and verb as in (19).

(19) ✓ subject ✓ object ✓ verb , ✓

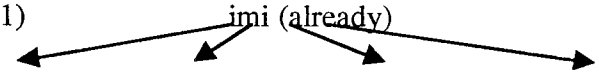
Some of the relevant examples are in (20) - (22).

(20) cacwu(often)



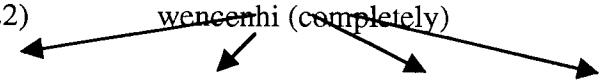
Celswu-ka yenghwa-lul ponta, (Celswu movie see)

(21) imi (already)



Celswu-ka ke yenghwa-lul poassta, (Celswu the movie saw)

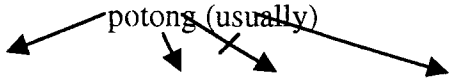
(22) wenceonhi (completely)



Celswu-ka kenyeuy ilum-ul icessta, (Celswu her name forgot)

However, the adverbs 'potong (usually)', 'cal (well)', and 'an (not)' show more restricted distribution.

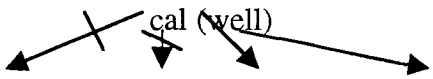
(23) a. potong (usually)



Celswu-ka pap-ul meknunta, (Celswu rice eat)

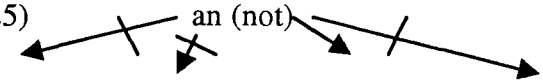
b. * Celswu-ka pap-ul *potong* meknunta./ Celswu-ka pap-ul *potong an* meknunta.[6]

(24) cal (well)



Celswu-ka yoli-lul mantunta, (?) (Celswu food cook)

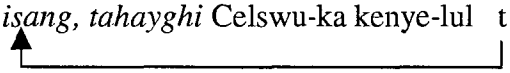
(25) an (not)



Celswu-ka yenghwa-lul coahanta, (Celswu movie like)

First of all, the AdvPs that appear in sentence final position require the presence of comma. That is, only when these AdvPs are deaccented, they can appear sentence finally. Second, sentence-initial distribution of lower AdvPs can be analyzed as an instance of movement (maybe focus movement in some cases). Cinque (1999) shows that adverb order can be subverted when there is a focus movement. (26) demonstrates that lower adverb 'te isang (any longer)' can precede higher adverb 'tahaynghi (fortunately)' when it appears sentence-initially. That is, there is order subversion by moving 'te isang (any longer)' to [Spec, CP] and there is thus comma between two adverbs ((26a) vs. (26b))

(26) a. *Te isang, tahayghi* Celswu-ka kenye-lul t an keliwehanta.



Any longer, fortunately Celswu her not miss.

b. * *Te isang tahayghi* Celswu-ka kenye-lul an keliwehanta.

Any longer fortunately Celswu her not miss

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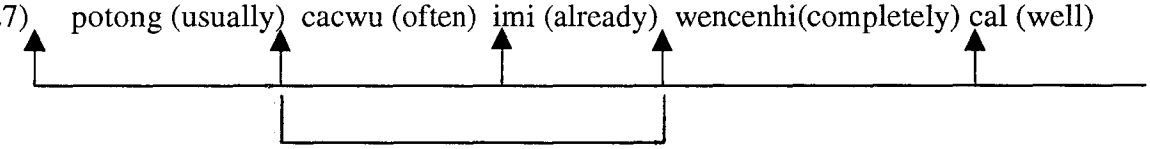
[6]. The first sentence in (23b) shows that object does not move past 'potong (usually)'. But, then, what about the second sentence in (23b)? See below where it is suggested that 'potong (usually) directly modifies (i.e. is the specifier of) 'an (not)'.

One might wonder why 'tahaynghi (fortunately)' does not prevent the movement of 'te isang (any longer)' across it by Relativized Minimality. It might be the case that functional projections where AdvPs are specifiers of are different type from the ordinary functional categories such as CP, hence the difference between AdvPs positions and [Spec, CP]. For the cases where the lower AdvP occurs before subject but after higher AdvP (e.g. *Tahayghi te isang* Celswu-ka kenye-lul an keliwehanta), it might be argued that lower AdvP moves to specifier position of some functional projection which is in the left of [Spec, AgrsP] and in the right of positions for higher AdvPs (In this analysis, there is a problem of needing some empty functional projections to allow movement, one of the problems Kayne's (1994) antisymmetry system has).

Or alternatively (and more promisingly), it could be that subject remains lower (than the position where 'te isang (any longer)' occupies). If this is the right track to follow, then the multiple positions of the most lower adverbs as shown in (20) – (22) and the more restricted distribution of some other lower adverbs as shown in (23) – (25) seem to be a function of the movement of SUBJ and OBJ DPs along a fixed grid of adverbs which do not move. The pattern is such that only SUBJs but not OBJs can raise past 'potong (usually)', SUBJs and OBJs must raise past 'cal (well)', and SUBs and OBJs optionally raise past the other adverbs in between.

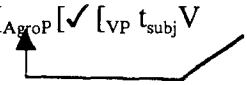
(27) potong (usually) cacwu (often) imi (already) wencenhi(completely) cal (well)



SUBJ (optional)	SUBJ (optional)	SUBJ (obligatory)
* OBJ	OBJ (optional)	OBJ (obligatory)

The movement pattern of SUBJs and OBJs in (27) makes sense of the distibutional difference among lower adverbs. In this paper, I assume, following Kayne (1994), that every language has SVO order underlyingly. In his system, the SOV order of Korean can be analyzed as the result of obligatory object shift out of VP to a position like [Spec, AgroP] as can be seen in (28).

(28) $[_{CP}\ [_{AgrsP}$ subj $[_{TP}[\checkmark\ [_{AgroP}[\checkmark\ [_{VP}\ t_{subj}$ V O]]]]]]]



We saw above in (17) that 'cal (well)' pecedes 'an (not)', and the pattern in (27) shows that OBJs move past 'cal (well)' obligatorily. All these seem to suggest that (i) Korean has obligatory object shift for Case checking, (ii) 'cal (well)' is located below AgroP where accusative case is checked (hence, always raised over by OBJs), (iii) other lower adverbs in between 'cal (well)' and 'potong (usually)' are base-generated above AgroP, and (iv) 'potong (usually)' is placed higher in a phrase structure. As already mentioned in footnote 6, the first sentence in (23b) shows that OBJs cannot move past the highest lower adverb 'potong (usually)', but then, we can ask why the second sentence in (23b) OK. I analyze it as the following: the adverb 'potong (usually)' directly modifies 'an (not)' in the specifier position of it.

Finally, let's consider an example like (29) in the light of the analysis presented above.

(29) a. Celswu-ka *imi* kenye-lul *te isang an* keliwehanta.
Celswu already her any longer not miss.

b. * Celswu-ka *te isang* kenye-lul *imi an* keliwehanta.
Celswu any longer her already not miss.

Adverbs 'imi (already)', 'te isang (any longer)', and 'an (not)' appear in a fixed order in a phrase structure. In (29a), object 'kenye-lul (her)' obligatorily raises past 'an (not)' and then it undergoes further optional movement past 'te isang (any longer)' but not past 'imi (already)'. In (29b), we cannot derive the right word order by any means: the movement of part of phrase structure (i.e. from 'te isang (any longer)' to 'keney-lul (her)' in [Spec, AgroP]) does not make sense. And it is not desirable to say that 'imi (already)' undergoes lowering to a position below AgroP, either, etc. Hence, the ungrammaticality of (29b) follows.

3. Higher AdvPs in Korean

3.1. Order

In this section, I will consider the relative order of higher AdvPs which have traditionally been classified as sentence adverbs in Korean. I will again simply list the pairs of sentences that show a rigid order between two adverbs, although it might be boring. It will be shown that Korean higher adverbs enter into Cinque's (1999) order with a minor exception of the adverb 'cikum, icey (now)'. Cinque's (1999) order is as the following (30):

(30) fracam (frankly) > fortunatam (fortunately) > evidentem (evidently) > probabilm
(probably) > ora (now) > forse (perhaps) > intelligentem (intelligently)

Now, consider Korean adverbs. First, pragmatic adverb 'solcikhi (frankly)' precedes evaluative adverb 'pwulhaynghi (unfortunately)':

(31) a. *Solcikhi Pwulhaynghi* Celswu-ka neey tayhay pyenkyen-ul kaciko issta.
Frankly unfortunately Celswu you-about prejudice have.
b. * *Pwulhaynghi Solcikhi* Celswu-ka neey tayhay pyenkyen-ul kaciko issta.
Unfortunately frankly Celswu you-about prejudice have.

Next, evaluative adverb 'pwulhaynghi (unfortunately)' is followed by evidential adverb 'pwunmyenghi (clearly)'.

(32) a. Celswu-ka *pwulhaynghi pwunmyenghi* hepwungchiessta.
Celswu unfortunately clearly exaggerated.
b. * Celswu-ka *pwunmyenghi pwulhaynghi* hepwungchiessta.
Celswu clearly unfortunately exaggerated.

The evaluative adverb 'pwulhaynghi' also precedes modal adverb 'sipcwungpalkwu, ama (probably)':

(33) a. Celswu-ka *pwulhaynghi sipcwunpalkwu* pyengtun kes kaytha.
Celswu unfortunately probably sick-seem.
b. */?(?) Celswu-ka *sipcwunpalkwu pwulhaynghi* pyengtun kes kaytha.
Celswu probably unfortunately sick-seem.

And evidential adverb 'pwunmeynghi (clearly)' comes before modal adverb 'sipcwungpalkwu, ama (probably)':

(34) a. Celswu-ka *pwunmeynghi sipcwunpalkwu* yenge-lul wanpyekhi paywul kesita.
Celswu clearly probably English perfectly will-learn.
b. ?? Celswu-ka *sipcwunpalkwu pwunmyenghi* yenge-lul wanpyekhi paywul kesita.
Celswu probably clearly English perfectly will-learn.

Irrealis adverbs 'hoksi, eccemyen (perhaps)' follow modal adverb 'sipcwunpalkwu, ama (probably)':

(35) a. Celswu-ka *sipcwungpalkwu hoksi* wuli-lul towul swu issulcito molunta.
Celswu probably perhaps us help-will-be able.
b. */?(?) Celswu-ka *hoksi sipcwungpalkwu* wuli-lul towul swu issulcito molunta.
Celswu perhaps probably us help-will-be able.

This irrealis adverb seems to be followed by subject-oriented adverb like 'hyenmyenghakey (wisely)':

(36) a. Celswu-ka *hoksi hyenmyenghakey* ttenassnuncito molunta.
Celswu perhaps wisely left.

b. ??/? Celswu-ka *hyenmyenghakey hoksi* ttenassnuncito molunta.
Celswu wisely perhaps left.

So far, the relative order is as the following (37) (although it is not as clear as lower AdvPs case) which is exactly the same as the Romance cases.

(37) solcikhi (frankly) > pwulhaynghi (unfortunately) > pwunmyenghi (clearly) > sipcwunpalkwu, ama (probably) > eccemyen, hoksi (perhaps) > hyenmyenghakey
(wisely)

Now, let's consider temporal AdvPs anchored to speech time such as 'cikum, icey (now)' and 'ke ttey (then)'. As is the case in Romance, this class of AdvP shows quite free ordering:

(38) a. Celswu-ka *sipcwungpalkwu icey* wuli mal-ul tululketa.
Celswu probably now our advice listen.
b. Celswu-ka *icey sipcwungpalkwu* wuli mal-ul tululketa.
Celswu now probably our advice listen.

(39) a. *Pwunmyenghi icey* ne ttenayya hanta.
Clearly now you leave-should.
b. *Icey pwunmyenghi* ne ttenayya hanta.
Now clearly you leave-should

(40) a. *Wuncohkey icey(cikum)* ne-nun wuliwa haymkkey issta.
Luckily now you us-with together be.
b. *Icey(cikum) wuncohkey* ne-nun wuliwa haymkkey issta.
Now luckily you us-with together be.

(41) a. *Solcikhi cikum* ne nay-lul hwanakey hayssta.
Frankly now you me angry-made.
b. *Cikum solcikhi* ne nay-lul hwanakey hayssta.
Now frankly you me angry-made.

The adverbs 'icey, cikum (now)' can follow 'solcikhi (frankly)', 'wuncohkey (luckily)', 'pwunmyenghi (clearly)', and 'sipcwunpalkwu, ama (probably)'. And they can also precede these adverbs. The position where 'icey, cikum (now)' appear preceding all these adverbs may be a Topic position to the left of all higher AdvPs as Cinque (1999) proposes. And the position where 'ice, cikum (now)' follow all these adverbs may be a position right to modal adverb 'sipcwunpalkwu, ama (probably)' as is the case in Romance and other languages (e.g. *now*, higher AdvPs, ... lower AdvPs (= ... probably, *now*...)). Let's now consider whether it really is so.

(42) a. Celswu-ka *cikum hoksi* ttenayssnuncito molunta.
Celswu now perhaps left.
b. Celswu-ka *hoksi cikum* ttenayssnuncito molunta.
Celswu perhaps now left.

(43) a. Celswu-ka *cikum hyenmyenghaykey* hangpokhayssta.
Celswu now wisely surrendered.
b. Celswu-ka *hyenmyenghaykey cikum* hangpokhayssta.
Celswu wisely now surrendered.

As we can see from (42) and (43) above, Korean does not show the evidence for Cinque's (1999) claim that 'icey, cikum (now)' are generated to the left of 'hoksi, eccemyen (perhaps)' and subject-oriented adverbs like 'hyenmyenghaykey (wisely)'. Rather, it seems to show that 'icey, cikum (now)' are generated between 'hoksi, eccemyen (perhaps)' and 'hyenmyenghaykey (wisely)'. Then what about the cases like (43b) where 'icey, cikum (now)' follows 'hyenmyenghaykey (wisely)'? Perhaps 'icey, cikum (now)' in Korean in this position can be treated as a circumstantial AdvP, which

comes at the end of VP, and so necessarily follows all the higher AdvPs. Now, see (44).

(44) a. Celswu-ka *hoksi cikum hyenmyenghakey* hangpokhayssnuncito molunta.
Celswu perhaps now wisely surrendered.
b. Celswu-ka *cikum hoksi hyenmyenghakey* hangpokhayssnuncito molunta.
Celswu now perhaps wisely surrendered.
c. Celswu-ka *hoksi hyenmyenghakey cikum* hangpokhayssnuncito molunta.
Celswu perhaps wisely now surrendered.

We just mentioned the possibility that 'icey, cikum (now)' in Korean are generated to the right of 'hoksi, eccemyen (perhaps)' and to the left of 'hyenmyenghaykey (wisely)'. Or alternatively we might derive the order in (44a) by movement as in (45), assuming Cinque's (1999) order found in other languages, which does not seem very likely in that we have to posit a kind of empty functional category insertion or presence of various functional categories between categories we can see only for movement's sake, and most importantly there is a problem of moving part of phrase structure as we can see in (45a).

(45) a.Celswu-ka *cikum* [***hoksi hyenmyenghakey***] hangpokhayssnuncito molunta

b. Celswu-ka [*hoksi hyenmyenghakey*]$_i$ [***cikum*** t_i **hangpokhayssnuncito molunta**]

c. Celswu-ka [*hoksi* [*cikum* t_i hangpokhayssnuncito molunta]$_j$ ***hyenmyenghakey***]$_i$ t_j.

To sum up, Korean higher AdvPs seem to show the following order:

(46) (icey, cikum (now)) > solcikhi (frankly) > pwulhaynghi (unfortunately) > pwunmyenghi (clearly) > sipcwunpalkwu, ama (probably) > eccemyen, hoksi

(perhaps) > icey, cikum (now) > hyenmyenghakey (wisely) > (icey, cikum (now))

Finally, let's see one example which shows that higher AdvPs necessarily precedes lower AdvPs.

(47) a. Celswu-ka *hyenmyenhakye potong* hwakyakhaci ani hanta.
Celswu wisely usually not-commit-himself.
b. */ ?? Celswu-ka *potong hyenmyenhakye* hwakyakhaci ani hanta.
Celswu usually wisely not-commit-himself.

3.2. Distribution

In this section, I will discuss where higher AdvPs can appear in Korean. Korean higher AdvPs also show quite free distribution as lower ones. They can appear sentence initially, sentence finally (with comma intonation), before object and verb, and between object and verb as in (48).

(48) ✓ subject ✓ object ✓ verb , ✓

Some of the relevant examples are in (49) and (50).

(49) tayhaynghi (fortunately)
Celswu-ka kenye-lul chacassta, (Celswu her found)

(50) pwunmyenghi (clearly)
Celswu-ka ke cayk-ul ilkessta, (Celswu the book read)

First of all, they can appear in sentence final position only when they are deaccented, as the obligatory comma shows. Second, all orders can be derived by movement. For example, the position of higher AdvP between subject and object (e.g. 'Celswu-ka

tayhanghi kenye-lul chacassta (Celswu fortunately her found)') can be derived from the underlying order in (51) by movement as in (52).

(51) $[_{FP}[_{FP}$ *Tayhaynghi* $[_{AgrsP}$ Celswu-ka $[_{AgroP}$ kenye-lul $[_{VP}$ t_{subj} chacassta $t_{obj}]]]]]$

(52) $[_{FP}$ Celswu-ka $[_{FP}$ *Tayhaynghi* $[_{AgrsP}$ t $[_{AgroP}$ kenye-lul $[_{VP}$ t_{subj} chacassta $t_{obj}]]]]]$

The position of higher AdvP between object and verb might be a case of 'parenthetical' usage of adverbs because the higher AdvP here seems to be set off by comma intonation from the rest of the sentence. Or alternatively, it might be the case that subject moves, object moves, and then subject moves once more to the highest position for some reason. Finally, the appearance of higher AdvP in sentence final position might also be the result of movement (maybe a focus movement to [Spec, CP]).

(53) $[_{FP}[_{FP}$ *Tayhaynghi* $[_{AgrsP}$ **Celswu-ka** $[_{AgroP}$ **kenye-lul** $[_{VP}$ $\mathbf{t_{subj}}$ **chacassta** $\mathbf{t_{obj}}]]]]]$

Now, I briefly turn my attention to the circumstantial adverbials of "place, time, manner, etc.". It is generally assumed that those circumstantial adverbials are within the VP. So, we might expect that circumstantial adverbials always follow higher and lower AdvPs, and this expectation is indeed borne out.

(54) Celswu-ka *haykkyoeyse yelsimhi* kongpwuhanta[7]. (Celswu at school with the great zeal study)

potong (usually) * *potong* (usually)
tayhaynghi (fortunately) * *tayhaynghi* (fortunately)

4. Conclusion

In this paper, I showed that Korean lower AdvPs and higher AdvPs follow Cinque's (1999) relative order of AdvPs, supporting his argument. The freer distribution of Korean adverbs can also be analyzed as the result of movement of DPs. However, there remain some problems we have to explain in future study. First, we need to find motivation for all these movements. Second, it is necessary to justify the presence of empty functional categories in various positions within phrase structure for movements to take place.

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[7]. It seems that higher and lower AdvPs can also appear between these two circumstantial adverbials, but in this case, I think lower and higher AdvPs modify 'yelsimhi (with great zeal)' in its specifier position.

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On underspecified *wh*-elements in pseudo-interrogatives[1]

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1. Introduction

In this article we analyze a particular *wh*-phrase, the analogue of English *what*, in three languages, two of which are Romance languages, namely French and the North-Eastern Italian dialect Bellunese, spoken in Northern Veneto. We provide a comparative analysis of the distributional and interpretive properties of French *que* and Bellunese *cossa* and focus on the fact that both of them seem to allow for a sort of semantic extension which results in interpretations different from the ordinary one, and coinciding in each case with sentential meanings that are not genuine requests for information. In order to analyze this particular aspect, we will restrict our attention to *Pagotto*, a sub-variety of Bellunese spoken in the Eastern Bellunese area of Northern Veneto.

The comparison between French and Pagotto is of interest because, contrary to *que*, *cossa* is "specialized" in expressing the "extended" uses of *what* while the

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standard interrogative meaning is expressed by *che*. Furthermore, the difference in form is correlated to a striking difference in syntactic behaviour. We will try to find out if this overt dissociation of two "faces" of *what* in Bellunese is more than an accident.

This inquiry takes place within a larger perspective determined by the following fact: crosslinguistically we find that among the different elements of the *wh*-paradigm, precisely the one corresponding to Engl. *what* is open to this variety of seemingly unconnected semantic values; on the contrary, the *wh*-phrases corresponding to *who*, *when*, *how*, *why*, etc. do not have a comparable range in their interpretive possibilities. This asymmetry between (the analogues of) *what* on the one hand and the whole remaining set of *wh*-phrases on the other forms the background of our analysis of *que* and *cossa*.

In view of our attempt to link the syntactic and interpretive properties of (the analogues of) *what* to the particular status of this element in the *wh*-paradigm it is especially interesting to note a case of large scale parallelism outside the Romance area. Including German *was* in our study allows us to significantly strengthen the justification of our approach in terms of deficiency.

The paper is organized as follows. Section 2 introduces the particular position of (the analogues of) *what* in the *wh*-paradigm. Section 3 gives a survey of Pagotto interrogative syntax and presents the paradigm of *cossa*. Section 4 introduces the corresponding uses of French *que*, and section 5 the corresponding uses of German *was*. In Section 6 we discuss the respective positions of these elements in the higher functional structure of the sentence. Section 7 is devoted to the question of the number of lexical entries for *cossa/que/was* in Pagotto, French and German. Section 8 concludes the paper.

2. The crosslinguistic multi-usage ability of *what*

A number of languages exhibit a curious asymmetry within their paradigms of (interrogative/exclamative) *wh*-phrases. On the one hand, these paradigms comprise a set of *wh*-elements characterized by a clearly recognizable semantic restriction whose function is to determine the domain of individuals that are potential values of the variable bound by the *wh*-quantifier. Such a restriction can be expressed by the

morphology alone or by means of a lexical noun (phrase), whence the (quasi) parallel series of bare and non-bare *wh*-quantifiers, arbitrarily represented here by French:

(1)

bare Q	*nonbare Q*	*restriction*
qui	quel homme/humain	[+human]
quand	à quel instant	[+time]
où	à quel endroit	[+place]
pourquoi	pour quelle raison	[+reason]
comment	de quelle façon	[+manner]
etc.		

On the other hand, these paradigms contain a *wh*-phrase whose restriction is less clearly recognizable - again in French, *que/quoi* - and which is usually characterized, in the literature, as being [-human] or [-animate]. This *wh*-phrase, which from now on we will call WHAT when we refer to it in general, independently of its form(s) in a particular language, quite often has a number of possible additional meanings or uses that are intuitively quite different from the canonical meaning, roughly equivalent to 'what thing'.[2] This multiplicity of meanings is not a uniform phenomenon across languages, in the sense that in a given language WHAT may or may not have one or the other of the set of meanings observed elsewhere.

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2. This characterization is obviously crude - even if "thing" is taken to include abstract entities - since WHAT can in particular refer to situations and events, that is, its potential values can have propositional content (like in What does he want? - To be left alone). It is interesting to note that there exist languages where this type of WHAT has a form that differs from the one corresponding to inanimate objects (see Dayal (1996, 82f) for examples from Walpiri). We will not be concerned here with such finer distinctions. Notice that the restriction "thing" / -human object" is the same in quantifiers that use *thing* as part of their morphological make-up: *He believed everything / nothing*. Notice also that under a suitable definition, persons can be things, for linguistic purposes.

A first illustration of the phenomenon, which we will examine below in a detailed way in the three linguistic systems under discussion, is given under (2), where we list the possible meanings of German *was* 'what'.[3]

(2) Was suchst du?
what look-for you
'What are you looking for?'

(3) Was weisst du schon davon!
what know you already of-it
'What can you know of it!'

(4) Was hast du dich verändert!
what have you refl changed
'How you changed!'

(5) Was rennst du so schnell?
what run you so fast
'Why are you running so fast?'

(2) is a standard interrogative, (3) is an exclamative-rhetorical question (equivalent to French *Qu'est-ce que tu en sais!*, *Qu'en sais-tu!*), (4) an exclamation, and (5) a question with a 'why'-like meaning. As the glosses show, English *what* lacks the noncanonical meanings in (4) and (5).

We will try to characterize the different meanings more carefully in the remainder of this article. Since there is no usual term available to refer to these noncanonical uses of *what*, we choose the term "pseudo-questions" and apply it at the same time to nonstandard questions (i.e. interrogatives which are not pure requests for information) and certain nonquestions, i.e., certain exclamatives.

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3. Throughout this article, we are exclusively concerned with bare WHAT. Obviously, the relation between (the analogues of) *what* and *what N(P)* (like, for example, German *was für ein Buch*) will have to figure in a larger comparative study of WHAT that should also integrate data from many other languages, within and beyond the two language families exemplified here.

For the time being, the important point is that while the concrete set of meanings may vary - to a limited extent - from one language to the other, there seems to be a remarkable stability: languages pick out from a perhaps universal set of possible meanings through the interplay of the lexical element and their syntactic resources / processes. This raises the question of the deep syntactic and semantic unity of WHAT behind the apparently unified superficial phenomenon. Two extreme possibilities suggest themselves a priori:

- there is indeed only one WHAT in each language;
- there are different WHATs, possibly as many as there are types of readings.

In order to propose an answer to this question we will examine in detail the properties of WHAT in Pagotto, French and German.

3. *Cossa* in Pagotto

3.1. Short survey of Bellunese *wh*-syntax

In Bellunese *wh*-phrases display in main *wh*–questions a very peculiar distributional pattern.

As proposed by Munaro (1997), the distribution of *wh*-phrases in main interrogatives in the Northern Veneto dialects can be accounted for by posing a requirement on the identification of the (nominal) head of the *wh*-phrase: a sufficient identification of the (possibly empty) category inside the head of the phrase determines the raising of the phrase in overt syntax to a functional specifier position, that is its occurrence in initial position; when the head of the *wh*-constituent is not sufficiently identified, the constituent fails to undergo syntactic movement and appears *in situ*, being connected at the interpretive level with an abstract *wh*-operator licensed in the specifier of the relevant functional projection of the CP layer; the corresponding head is occupied by the inflected verb, which is assumed to be endowed in interrogative contexts with specific inflectional features.

Simplifying somewhat it is possible, with respect to the position occupied in such contexts, to identify three different classes of *wh*-phrases: phrases which always

move to a sentence initial position, phrases which optionally do so, phrases which never do so and always appear in sentence internal position[4].

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[4]. The first class is represented by complex *wh*-phrases consisting of the *wh*-modifiers *che-quant* followed by a nominal element, that is, a phonetically realized nominal head; the *wh*-phrases belonging to this class always appear in initial position:

(i)a. Che libro avé-o ledést?
which book have-you read?
'Which book have you read?'
b.*avé-o ledést che libro?

(ii)a. Quanti pon compre-lo?
how many apples buys-he?
'How many apples does he buy?'
b.*Compre-lo quanti pon?

Munaro (1997) takes the ungrammaticality of (ib) and (iib) to follow from the structural properties of the *wh*-constituent, and more precisely from the fact that the presence of an overtly realized nominal head make them incompatible with the abstract *wh*-operator licensed in the CP field.
The second class of *wh*-phrases comprises the *wh*-elements *qual* and *quant* when used pronominally, that is not followed by a phonetically realized nominal head; they can appear either in initial position or *in situ*:

(iii)a. Quant ghén'à-tu magnà?
b. Ghén'à-tu magnà quant?
'How much of it have-you eaten?'

(iv)a. Qual à-tu sièlt?
b. À-tu sièlt qual?
'Which one have-you chosen?'

The optionality of the occurrence of these *wh*-phrases has been traced back in Munaro (1997) to the *d-linking* properties of these *wh*-elements and therefore to the ambiguous modality of identification of the empty category constituting their head; more precisely, when they appear *in situ* the identification is supposed to take place through reference to an antecedent in the discourse, while in case of

As for the *wh*-element *what*, it can be expressed in these varieties with two different items, *che* and *cossa*, which display complementary distributional properties, in that the former appears *in situ* while the latter appears in sentence initial position:

(6)a. *Che avé-o magnà?
b. Avé-o magnà che?
'What have you eaten?'

(7)a. Cossa avé-o magnà?
b. *Avé-o magnà cossa?
'What have you eaten?'

The ungrammaticality of (7b) is explained by Munaro (1997) resorting to the idea that, despite appearance to the contrary, *cossa* has an internal structure which is more similar to that of complex *wh*-phrases than to that of bare *wh*-elements.

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movement the nominal head of the *wh*-phrase is identified with a *pro*, that is, with an empty pronominal category endowed with independent reference.

The third class of *wh*-phrases is represented by bare *wh*-elements, both (pro)nominal, like *chi* and *che*, and adverbial, like *comé* and *andé*; this class of *wh*-phrases occurs invariably in argumental position:

(v)a. *Chi à-tu incontrà?
b. À-tu incontrà chi?
'Whom have you met?'

(vi)a. *Andé sié-o stadi?
b. Sié-o stadi andé?
'Where have you been?'

Munaro (1997) proposes that these *wh*-elements, whose nominal head is presumably occupied by a not (sufficiently) identified empty category, head a QP internal to the extended nominal projection; they fulfill the requirement of categorial and structural parallelism with the abstract *wh*-operator licensed by the raising of the inflected verb to the relevant functional head position, and can therefore undergo a process of matching with it at the interpretive level.

This hypothesis gains further empirical support from a diachronic perspective. As observed in Munaro (1998), *cossa* originated as a nominal element (meaning *thing*) and, starting from the 18th century, developed eventually into an interrogative operator, widening at the same time its semantic values (see section 2.2.1.5 for details); this is taken to be a consequence of its raising from the N° position up to the D° position, from where it transmits its *wh*-feature by *spec-head agreement* to [Spec,DP], thereby checking it.

From the interpretive point of view, in the majority of the varieties subsumed under the label Bellunese *che* and *cossa* are virtually interchangeable, that is, (6b) and (7a) are synonymous. There is, however, a dialect of the Bellunese area, the Pagotto dialect, in which the real *wh*-question, intended as genuine request for information, is (6b), while (7a) has particular uses which we present in the following section.

We will try to connect the complementary distribution of these two *wh*-elements to their semantic value and see how the interaction between them can be formally accounted for.

3.2. *Cossa* and pseudo-questions in Pagotto

3.2.1. *Cossa* in main contexts

We analyze in this section the various main contexts in which the *wh*-word *cossa* can occur in Pagotto, where interrogative structures containing this element are not interpreted as real questions, but are amenable to a variety of interpretations which we are now going to examine.

3.2.1.1. Argumental use of *cossa* in rhetorical questions and exclamations

Cossa is used argumentally, that is, in its primary meaning of *what*, in rhetorical questions, whereby we mean sentences that correspond syntactically to interrogative structures (that is, displaying inversion between inflected verb and subject clitic pronoun) but through which the speaker does not intend to acquire new information about a specific subject:

(8) Cossa sé-tu drìo magnar (che)?
what are-cl behind eat (what)
'What on earth are you eating?'

This sentence can only be used to express the speaker's opinion that the person referred to (i.e. the subject of the sentence) is eating some strange and unexpected thing, that is the speaker's dismay or disapproval concerning what is being eaten; note that the *wh*-element *che* can optionally appear in postverbal position. [5]

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5. That factivity may be involved in determining the grammaticality of the structure exemplified in (8) is shown by the following contrasts:

(i)a. Cossa magni-tu che?
what eat-cl what?
'What on earth are you eating?'
b. ??Cossa magni-tu che, stasera?
what eat-cl what, tonight?
'What are you going to eat tonight?'
c. ??Cossa u-tu magnar che?
what want-cl eat what?
'What do you want to eat?'
d. Cossa magnarà-lo che?
what eat-fut-cl what?
'I wonder what on earth he may be eating'

While the grammatical example in (ia) has the same interpretation as (8), in (ib) and (ic) the implication (determined respectively by the temporal adverb and by the modal verb) that the event of eating is not taking place at the moment of speaking or has not taken place yet gives rise to ungrammaticality; the (unreal) future tense in (id) is interpreted as expressing the fact that the speaker has no idea concerning what the subject may be eating. Factivity may be relevant in so far as it is not possible to express annoyance or reproach about a future event, that is, to evaluate its degree of superfluousness or unconventionality.

Roughly the same meaning can also be expressed through an ordinary exclamative sentence, in which the *wh*-word is (obligatorily) followed by the complementizer *che* and no inversion between verb and subject clitic obtains:

(9) Cossa che te sé drìo magnar!
what that cl-are behind eat
'What you are eating!'

Since, as we have seen above, the form *che* can only appear *in situ*, and all *wh*-constituents undergo overt movement in main exclamatives, *cossa* is in fact the only one of the two forms that we find in these dialects in genuine exclamatives like (9). However, there is a difference between (8) and (9): while (8) can only express a negative attitude of the speaker towards the event, in (9), depending on the context, the speaker expresses either his enthusiastic admiration or his blame concerning the action performed.[6]

Consider now the following sentences:

(10) Cossa u-tu che fae (*che*)?
what want-cl that do (what)

---

6. For further details on this kind of constructions, see Munaro (forthcoming). Note that the use of complementizer *che* is incompatible with the presence of the *wh*-phrase *che in situ*:

(i)*Cossa che te se drìo magnar che
what that cl-are behind eat what

Note that in (8), adding a sentential negation like in (ii), we get the reading in which the speaker expresses the opinion that the subject is doing every kind of (unexpected) things:

(ii) Cossa no sé-tu drìo magnar?!
what not-are-cl behind eat
'What things you are eating!'

On the particular "scalar implicature effect" involved in this reading see Portner and Zanuttini (1996).

'What do you want me to do?'

(11) Cossa fa-e?
what do-cl
'What shall I do?'

(12) Cossa à-li (che), da vardàr?
what have-cl (what), to look
'What do they have to look?'

The sentences in (10) and (11) are not interpreted as questions inquiring about the addressee's opinion concerning the identification of the speaker's task, but can only be interpreted as the speaker's statement/admission, respectively, of one's impotence or of the impossibility of doing anything (in (10)) and of the fact that there is nothing interesting for him to do or no escape hatch from a difficult situation (in (11)). Similarly, the utterer of (12) does not really inquire about the reason for the people's insistent looking at him, but simply expresses his own annoyance at that fact.

3.2.1.2. 'Why'-like *cossa*

Within the domain of rhetorical questions there seems to be another group of contexts in which *cossa* has a slightly different meaning, roughly corresponding to *why,* but where the sentence is again interpreted as expressing the speaker's annoyance or disapproval with respect to the event referred to:

(13)a. Cossa zìghe-tu (che)?![7]

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7. There are among unaccusatives some predicates which are not compatible with this particular reading of *cossa*, like for example copular verbs in predicative constructions:

(i)a.*Cossa sé-tu cussì agitada?!
what are-cl so nervous

what shout-cl (what)
'Why are you shouting?!'

b. ??Cossa magni-tu (che)?!
what eat-cl (what)
'Why are you eating?!'

In (13a) we have an intransitive verb, which excludes the possibility for *cossa* to be interpreted as the direct object of the predicate; the utterer of (13a) points out that he doesn't really see any valid reason why the person should shout and expresses his lively disapproval towards the fact that he does. With transitive verbs however, if there is no direct object expressed, as in (13b), the sentence is ungrammatical in the relevant reading (although it is perfectly acceptable in the reading analyzed in the previous section)[8].

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b.*Cossa é-li deventàdi tant sparagnini?!
what are-they become so thrifty

However, even in this case the addition of a modal predicate improves the degree of grammaticality of the structure:

(ii)a. Cossa ocore-lo che te sìe cussì agitada?!
what needs-cl that cl-be so nervous
'You needn't/shouldn't be so nervous?!'

b. Cossa ocoré-lo che i deventésse tant sparagnini?!
what needs-cl that cl-became so thrifty
'They needn't/shouldn't have become so thrifty?!'

8. Paola Benincà (personal communication) points out that in Paduan, which allows the particular readings discussed in section 3.2.1, the *why-like* interpretation of *cossa* requires some form of licensing, such as a periphrastic rephrasing of the predicate with the verb 'go', like in (ib), or the addition of a constituent providing the predicate with a further specification, like in (ic):

(i)a.??Cossa magn-ito?
what eat-cl?
'Why are you eating?'

As shown by (14a), the structure is still slightly deviant if the direct object is overtly realized: this is probably due to a violation of the theta-criterion, as the (mono-) transitivity of the verb is not compatible with two potential arguments (that is *cossa* and the object DP); a psycholinguistic constraint might be at work here, such as the *minimal attachment* principle proposed by Frazier and Fodor (1978).

The acceptability improves considerably with the addition of the periphrastic expression (*par far*) *che*, which disambiguates the semantic value of *cossa*, (as in (14b)), or if a verb with a modal function is introduced (like 'go' in (14c) or 'need' in (14d)), thereby creating a structure with a modal periphrasis which again helps disambiguate and make it clear that the argument of the verb is the sentence internal DP and not *cossa*:

(14)a. ?Cossa compre-tu n'altro giornal?!
what buy-cl another newspaper

b. Cossa compre-tu n'altro giornal (par al to amigo) (*par far*) *che*?!
what buy-cl another newspaper (for you friend) (for do) what

c. Cossa va-tu a comprar n'altro giornal (*par far che*)?!
what go-cl to buy another newspaper (for do what)

d. Cossa ocore-lo comprar /che te-compre n'altro giornal (*par far che*)?!
what needs-cl buy / that cl-buy another newspaper (for do what)
'There is no need for you to buy another newspaper.'

The utterer of (14) expresses the opinion that there is absolutely no need for the addressee to buy another newspaper.

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b. Cossa ve-to a magnare?!
what go-cl to eat
'You needn't eat.'

c. Cossa magni-to a 'ste ore?!
what eat-cl at these hours
'Why are you eating at this time?!'

Moreover, a flat intonation of the sentence is required.

For similar facts concerning German *was* and a possible formal account of these data see below.

3.2.1.3. 'How (much)'-*cossa*

Still another use of *cossa* is attested in sentences such as (15), where *cossa* expresses a quantificational value; note that in both cases the wh-element realizes the obligatorily selected argument of the verb and that such argument is a quantificational expression whose relation to the selecting predicate is very close to the one of a direct object, as it can be pronominalized with *li* or *ne* (see for a detailed analysis of these constructions in Italian the *Grande Grammatica di Consultazione*):

(15)a. Cossa coste-lo (*che)?
what cost-cl (*what)
'How much does it cost?'
b. Cossa péze-lo (*che)?
what weigh-cl (*what)
'How much does it weigh?'

The structure in (15a), with the cooccurrence of both *wh*-elements, is not in fact totally excluded; an example like (16a) is acceptable in the rhetorical reading according to which the person referred to is supposed to lend a helping hand and is indeed in the position to do it, although he doesn't; similarly, an example like (16b) can only be used by the speaker to express the fact that, despite his efforts, he doesn't manage to remember the name of the person referred to:

(16)a. Cossa ghe coste-lo (che) iutàrli
what him costs-cl (what) help-them
'What does it cost him to help them'
b. Cossa se ciàme-lo (che)
what himself calls-cl (what)
'What's his name'

Note that in (16) the *wh*-element *che* in sentence internal position can be omitted.[9]

The same interpretation that *cossa* has in the examples reported in (15) is also available in exclamative structures like (17):

(17)a. Cossa che'l costa/peza!
what that cl-costs-weighs
'How much it costs/weighs!'

---

9. It is noteworthy that in contexts such as the ones exemplified in (16) in Pagotto the sentence-initial *wh*-element *cossa* can be omitted, but the resulting structure is then interpreted as a real question:

(i)a. Coste-lo che?
costs-cl what
'How much does it cost?'
b. Se ciàme-lo che?
himself calls-cl what
'What's his name?'

In (ia), as we have seen above, the *wh*-item corresponds to a quantificational expression, while in (ib) it is likely to express a predicative complement of the (null) subject; in both cases *che* realizes an argument obligatorily selected by the predicate, which is also true of (ii), where it probably pronominalizes a whole CP selected by predicates such as *I have the impression/It seems to me [that...]*:

(ii) Te à-lo parést che?
you has-cl seemed what
'What impression have you had?'

It seems then that even the *wh*-item *che* can, to a limited extent, widen its basic semantic contribution, but, differently from *cossa*, it is always associated with an interpretation of the sentence as a real interrogative through which the speaker intends to acquire information not previously available to him.

b. Cossa che (no) 'l ghe piaze, al gelato!
what that (not) cl-him-likes, the ice-cream
'How much he likes ice-cream!'

Here the *wh*-element is followed by the complementizer *che* and the verb is preceded by the subject clitic pronoun belonging to the assertive paradigm.

3.2.1.4. Parenthetical use of *cossa*

There is a further instance of *cossa* that is worth pointing out, that is the parenthetical use attested in sentences like the following:

(18) Me fradèl, cossa u-tu, no' l vede mai.
my brother, what want-cl, not him see never
'As for my brother, you know, I never see him.'

Here *cossa* introduces the by now frozen parenthetical expression *cossa utu*, used in contexts where the speaker wants to provide a plausible explanation or a justification for a certain, usually unpleasant or unfortunate, situation or attitude[10].

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10. All the particular interpretations analyzed in section 3.2.1 are also available for the corresponding *wh*-elements in other Northern Italian dialects, such as Paduan *cossa* (as anticipated in footnote (8) above), as exemplified respectively in (i) to (iv):

(i) Cossa magni-to?!
'What on earth are you eating?!'
(ii) Cossa ridi-to?!
'Why are you laughing?!'
(iii) Cossa coste-lo?
'How much does it cost?'
(iv) Cossa vu-to...
'...you know...'

3.2.1.5. Diachronically attested non-canonical uses of *cossa*

The semantic properties of *cossa* analyzed in the previous sections are particularly interesting in the light of its diachronic development; as discussed in Munaro (1998a), these particular usages are attested starting from the 18th century; in this period the nominal use of *cossa*, attested from the 16th century, starts to decline and correspondingly one finds an increasing number of cases in which *cossa* functions as *wh*-operator meaning *what*; the three following examples witness a non-canonical use of *cossa* as *wh*-item whose semantics is very close to the one discussed above:

(19) Cossa avé-u nome?
what have-cl name
'What is your name?' (Villabruna, "Fioretta", act I - scene II)

Note that in the regional varieties of standard Italian that have both *che* and *cosa* only the latter allows for the relevant interpretation.

In Mendrisiotto, a dialect of the Italian speaking part of Switzerland, the *wh*-word corresponding to *cossa* (or its reduced form) can acquire the meaning *how much*, both with a nominal and with an adverbial function, as exemplified in (v) and (vi) respectively:

(v)a. Cusè che ta n'e mangiada?
what that cl-of it-have eaten
'How much of it have you eaten?'
b. Sa ta n mangiat (quanta)?
what cl-of it eat (how much)
'How much of it do you eat?'

(vi)a. (Cusè) al peza quantu l to sacch?
(what) cl-weighs how much the your sack
'How much does your sack weigh?'
b. Sa/se l'è che l dura?
what cl-is that cl-lasts?
'How long does it last?'

Note that in some cases the *wh*-element *how much* appears in argumental position.

(20) Cossa olé-u a tor quà entre la me toza?
what want-cl to take here inside the my girl
'How much do you want to accept my daughter inside here?
(ibidem, act I – scene II)

(21) Cossa son-e stata quà a zanzar, mo, mi?
what am-cl been here to chat, then, I
'Why have I been chatting, then?' (ibidem, act II – sceneV)

As is clear from the glosses, in these examples the semantic value of *cossa* can be rendered respectively with *what, how much* and *why*; the hypothesis that between the 18th and the 19th century *cossa* had already undergone a semantic widening with respect to its original meaning is shown by the fact that in his "Vocabolario bellunese-italiano" (dating back to the first half of the 19th century) the bellunese abbot Carlo Vienna (1775-1855) quotes the following line from a sonnet by Pozzobon:

(22) Cossa che se vien vèci e sì nol par!
what that one comes old and nonetheless not-cl-seems
'How old one becomes without realizing it!'

Here *cossa* occurs in an exclamative sentence with a semantic value very close to *how / how much.* This particular use of the *wh*-phrase *cossa* in exclamative contexts is still attested in the Northern Veneto dialects, as shown by (17) above.

3.2.2. *Cossa* and embedded contexts

In this section we will consider some data concerning the interaction between *cossa* and embedded contexts and, in particular, we will try to determine if *cossa*, in the particular usages discussed above, can be interpreted as depending on the embedded predicate.

In indirect questions *cossa* is not amenable to the interpretations discussed up to now; the example in (23a) is acceptable as normal indirect question (such as (24a)), but ungrammatical in the relevant reading (expressing the speaker's dismay/annoyance

about what has been done); similarly (23b), with cossa interpreted as causal element, is ungrammatical, and (23c), with quantificational reading, is marginal:

(23)a. %Me domande cossa che i à fat.
myself ask what that cl-have done
'I wonder what they have done.'
b. *Me domande cossa che 'l compra n'altro giornal
myself ask what that cl-buys another newspaper
'I wonder why he buys another newspaper.'
c. ??Me domande cossa che 'l costa/peza
myself ask what that cl-costs/weighs
'I wonder how much it costs/weighs.'

The grammaticality status of (23) strongly suggests that the uses discussed in section 3.2.1 are crucially related to the availability of a particular structural configuration which obtains in main questions; on the other hand, the possibility for *cossa* to function as real question word seems to be tied to its being embedded under an interrogative predicate; this possibility is also available in infinitival contexts, as shown by (24b):

(24)a. No so cossa che i fa (*che).
not know what that cl-do (*what)
'I don't know what they do.'
b. No so cossa far (*che).
not know what do (*what)
'I don't know what to do.'

Note that in these cases, differently from what happens in main questions, the *wh*-item *che* cannot appear in sentence internal position.

As we saw above, *cossa* can introduce a fake main *wh*-question in which the bare *wh*-word *che* can optionally appear *in situ*:

(25) Cossa fa-lo (che)?

Given the impossibility of interpreting (25) as a real question, we predict the ungrammaticality of an example like (26a), through which the speaker asks the addressee to repeat his statement (and where the rhetorical interpretation is probably excluded by this particular pragmatic value of the sentence):

(26)a.??Cossa à-tu dit che l'à fat?
b. ?Cossa à-tu dit che l'à fat che?
c. À-tu dit che l'à fat che?
(what) have-cl said that cl-has done (what)
'What have you said that he has done?'

The only completely grammatical version is (26c), with no *wh*-item in initial position and *che* inside the embedded clause; (26b), with *cossa* in initial position and *che* in sentence internal position, is almost acceptable but still with the particular interpretive implication that the speaker is somehow unpleasantly surprised by the news. The data in (26) can be interpreted as indicating that argumental *cossa* (in its non-canonical reading) can be construed with the embedded predicate only when it is doubled by the *wh*-element *che in situ* but not otherwise; these data might also suggest that *cossa* does not raise from inside the embedded clause but is in fact inserted as expletive element in the position where it appears.

In order to determine to what precise extent sentence initial *cossa* is interpretable as related to the embedded verb, let us consider some cases where *cossa*, in the *why-like* reading, introduces a main clause whose verb selects an embedded declarative containing an intransitive predicate:

(27)a. *Cossa pensi-tu che i sìa drìo far barùfa (che)?
what think-cl that cl-be behind do quarrel (what)
b. Cossa va-tu a pensar che i sìa drìo far barùfa (che)?
what go-cl to think that cl-be behind do quarrel (what)
c. Cossa pensi-tu che i sìa 'ndàdi a far barùfa ??(che)?
what think –cl that cl-be gone to do quarrel (what)
'There is no reason for you to think that they are quarrelling'

As shown by (27a), *cossa* cannot usually be construed either with the matrix or with the embedded predicate, independently of the presence of *che*; only when the

main predicate is replaced by a periphrastic expression with the verb 'to go' is the sentence completely grammatical, as shown by (27b); (27c) shows that rephrasing of the embedded verb is in itself not sufficient to save the structure and that grammaticality is achieved through the additional realization of *che in situ*; however, independently of the position occupied by the licensing elements, both in (27b) and in (27c) *cossa* can only be construed with the matrix verb. Again, as in (14c) above, the presence of a modality feature expressed by the verb *go* seems to favour the non-argumental reading.

Let us consider now cases in which the matrix predicate selects an infinitival clause, like the following:

(28)a. *Cossa* sta-lo là a far *(*che*)?
what stays-cl there to do (what)
'What (on earth) does he stay there for?'
b. Cossa sta-lo là a parlar de *che*?
what stays-cl there to speak of what
'What (on earth) does he stay there to speak about?'
c. Cossa sta-lo là a spetàr (*che*)?
what stays-cl there to wait (what)
'Why does he keep waiting there / what is he waiting for?'

Again, in (28a) *cossa* can only be interpreted as object of the embedded infinitival verb and only if *che* is realized *in situ*; (28b) shows that *cossa* is also compatible with a prepositional phrase containing *che in situ*; finally in (28c), which contains an embedded verb that is ambiguous between a transitive and an intransitive reading, the realization of the *che in situ* is optional: if it is realized the transitive reading is selected, while if it is not realized *spetàr* can only have the intransitive meaning and *cossa* receives the *why-like* interpretation (probably favoured by the presence of the modal-like verb 'stay')[11].

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[11]. Note that there is an asymmetry between main and embedded contexts also with respect to the compatibility of *cossa* with the *wh*-item *chi in situ*; while the cooccurrence of the two elements gives rise to ungrammaticality in main questions, it is almost acceptable in embedded contexts, as shown by the contrast between (i) and (ii):

Summarizing, what the examples from (26) to (28) show is that *cossa* can be interpreted with the embedded predicate only in its non-canonical argumental reading and if doubled by *che*; moreover, *why-like cossa* can only be interpreted with the matrix verb and if some licensing element (be it a modal-like predicate or *che*) is present.

3.3. Division of labor: the dichotomy *che - cossa*

The basic question we address in this subsection concerns the nature of the unity underlying the different noncanonical uses of *cossa* and a precise determination of what sets them apart from the "standard argumental" use of WHAT, that is, what precisely the semantic specialization of *cossa* consists in.

On the basis of the data presented above, we can identify two main features:

- *cossa* introduces genuine *wh*-questions only in embedded interrogative contexts;

(i)a.*Cossa vedi-tu chi stasera?
what see-cl whom tonight
'Whom are you seeing tonight?'
b.*Cossa a-tu parlà con chi ieri?
what have-cl spoken with whom yesterday
'With whom have you spoken yesterday?'

(ii)a.?Cossa sié-o stadi là a vardar chi?
what are-cl stayed there to look whom?
'Whom have you stayed there to look at?'
b. ?Cossa sié-o 'ndadi là a parlar con chi?
what are-cl gone there to speak with whom?'
'Whom have you gone there to speak with?'

As usual, in (ii) the presence of *cossa* entails that the speaker regards the event described with a reproachful attitude, judging it as somehow disturbing.

- in main contexts *cossa can* have, beside its primary meaning of 'what', other semantic values; in such cases, it conveys different kinds of attitudes of the speaker towards the propositional content of the sentence.

The issue under discussion is strictly connected with the fact that the clear distributional asymmetry between *che* and *cossa* reveals an opposition between two major types of uses of WHAT. This dissociation, which we take to manifest overtly in Pagotto a distinction that is realized covertly in other languages, suggests that the "collection" of semantic values associated with *cossa* somehow forms a unity in the sense that these uses share a common (syntactic or semantic) core; this leads us to reject the second of the two extreme possibilities envisaged at the end of section 2 above.

Given that *che* and *cossa* each specialize for mutually exclusive subdomains of WHAT, a crucial question is how, and along what lines, this division is realized. The question, then, becomes the following: what are the respective sets of readings of *che* and *cossa*?

Two possible hypotheses suggest themselves at this point.

Starting from the observation that *cossa* does not (generally) allow for the real question interpretation, an apparently natural divide could be imagined: the one separating the argumental readings from the non-argumental ones. Intuitively speaking, one of the two *wh*-phrases would be largely parallel to WHO (the "true" WHAT), the other quite different (a "pseudo"-WHAT); as far as Pagotto is concerned, *che* would correspond to the former, and *cossa* to the latter. This first hypothesis is based on the assumption that *cossa,* being too impoverished in its feature content for the argumental use, is a kind of expletive with no basic meaning, and its actual meanings are entirely determined by structural and/or contextual factors; such inherent underspecification would make *cossa* compatible with such a broad spectrum of different "nonstandard" values as the one attested.

An alternative hypothesis relies on the assumption that *cossa* is basically synonymous with *che*, as it can also have the genuine interrogative reading in embedded questions (and more generally in other dialects), and that, again, its basic meaning may be affected (that is, somehow emptied or widened) by some contextual or structural properties.

But the actual division of labor between the two WHATs is more complex, and instructive. A striking feature of this division is the fact that *cossa*, "specializing" by hypothesis vis-à-vis of *che*, is *not* specialized for nonargumental values, as might a

priori be expected given that *che* seems to be limited to, i.e. specialized in, argumental values. It seems to be more adequate to speak of standard argumental values - expressed by *che* - vs. nonstandard values, argumental as well as nonargumental, expressed by *cossa*. This is precisely what seems to characterize the division of labor: the purely interrogative argumental value of *che* on the one hand, and the "noncanonical" values, including argumental ones, of *cossa*, on the other.

4. The types of uses of French *que*

After the detailed presentation of the Pagotto paradigm, let us turn to French. In presenting the different uses of *que*, we will concentrate here on the main types and return to particular subtleties in the context of the later theoretical discussion.

4.1. Interrogative (true question) readings of *que*

In the following presentation, we will make two simplifications which concern points that are irrelevant to our discussion. First, we will largely abstract away from the form *quoi*, which has a very particular distribution (in fact, complementary to that of interrogative *que*, except in infinitival sentences). Second, we will treat here the simple form *que* and the complex form *qu'est-ce que* 'what is it that' (a form only superficially similar to the focus construction) as if they were a unique form.[12]

With this proviso, (29) and (30) are *wh*-questions in which *que* and *qu'est-ce que* are interpreted as standard interrogative argumental WHAT. In (31) and (32) *que* and *qu'est-ce que* function as selected arguments of a quantity/amount type.

(29)a. Que faites-vous?
'What are you doing?'

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12. See Obenauer (1981) for an analysis of the interrogative construction using *est-ce que*, and Obenauer (1977) for discussion of exclamative *que* and *qu'est-ce que*. See Milner (1978, chap. 7) for numerous aspects concerning exclamative *que*.

b. Qu'avez-vous fait?
'What have you done?'

(30)a. Qu'est-ce que vous faites?
b. Qu'est-ce que vous avez fait?
(same as (29))

(31)a. Que gagne-t-il?
b. Qu'est-ce qu'il gagne?
'What does he earn?'

(32)a. Que coûte ce voyage?
b. Qu'est-ce que coûte ce voyage?
'What does this travel cost?'

The examples (31) and (32), then, correspond to the use of *cossa* exemplified in (15), while (29) and (30) have no direct corresponding structure with *cossa* in Pagotto, although such use is attested in other varieties of the Bellunese area.

4.2. *Que* in pseudo-questions

4.2.1. Argumental *que / qu'est-ce que*

The sentences in (33) and (4) instantiate the interrogative-exclamation case, i.e. an interrogative structure with exclamative intonation and a surprise or disapproval reading (cf. also the comment concerning (3), above). (35) is the rhetorical question corresponding to the Pagotto *u-tu* construction exemplified in (10).

(33)a. Que faites-vous?!
what do-you
'What are you doing?!
b. Qu'avez-vous fait?!
'What have you done?!'

(34)a. Qu'est-ce que vous faites?!
'What are you doing?!
b. Qu'est-ce que vous avez fait?!
'What have you done?!'

(35)a. Que veux-tu que je fasse?
what want-you that I do
a'. Que veux-tu que j'y fasse?
what want-you that I-about-it do
'How can I help it?'
b. Qu'est-ce que tu veux que [je fasse / j'y fasse]? (same as (35a))

The examples in (36) contain the frozen expression *que veux-tu* without a sentential complement, meaning (approximately) 'It's like that' ("parenthetical" *que veux-tu*). This use of *que veux-tu* is reminiscent of that of Pagotto *u-tu* in (18).

(36)a. Que veux-tu, il a toujours été paresseux.
b. Qu'est-ce que tu veux, il a toujours été paresseux.
'It's like that / there is nothing one can do, he has always been lazy.'

4.2.2. Nonargumental 'why'-like *que*

4.2.2.1. *Que* in nonnegative and negative contexts

In contemporary French, *que* is rare in a 'why'-like use in colloquial style and standard style.[13] Nonetheless, many speakers have clear intuitions about this *que*.

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13. In earlier stages of French, the situation was different. "[*Que*] sert [...] de complément circonstanciel sans préposition (1080) [...] jusqu'au XVII[e] s. également pour à «quel propos?», «en quoi?», «pourquoi?», «à quoi?» (*Le Robert*, Dictionnaire historique de la langue française, 1992). [*Que* is used as nonprepositional adjunct (1080) [...] until the 17th century also for «in what connection?», «why?», «what for?».]

They agree on a second property of *que* that distinguishes it from Pagotto *cossa*, namely the fact that 'why'-like *que* is almost entirely restricted to negative contexts. This intuition is implicitly confirmed by the examples given by grammarians or in dictionaries. The following sentence, characterized as "elegant turn" by Martinon (1927, 248n.) is one of the extremely rare nonnegative examples:

(37) Que tardez-vous?
what are-long-you
'Why are you (so) long (doing it) ?'

Our informants qualify the sentence as "trés recherchée" and only acceptable with an added *donc* at the end.[14] Martinon gives a second example, which is negative, and notes that *pas* is not admitted in this case:

Littré gives, among other examples:

(i) Si vous n'êtes pas malade, que diable ne le dites-vous donc?
'If you are not sick, why on earth don't you say it?'
(Molière, Le Médecin malgré lui, II, 5)

and, without *diable*,

(ii) Que parlez-vous ici d'Albe et de sa victoire?
'Why do you speak here of Alba and her victory?'
(Corneille, Horace, IV, 2)

and with *ne*:

(iii) Si le choix est si beau, que ne le prenez-vous?
'If the choice is so beautiful, why don't you take it?'
(Molière, Femmes savantes, III, 5)

14. The role of this element in (almost) "licensing" *que* here is reminiscent of the role of the particle *denn* in German analogues with *was*, like in (i).

(i) Was lachst du ?(denn)
'Why are you laughing?'

See below, section 7.

(38) Que ne partez-vous?
'Why don't you leave?'

As in the case of Pagotto, 'why' is only an approximative translation, as shown by the substitution of *pourquoi* for *que* in (37) and (38):

(39)a. Pourquoi tardez-vous?
'Why are you (so) long (doing it) ?'
b. Pourquoi ne partez-vous *(pas)?
'Why don't you leave?'

(39a,b) can be interpreted as true questions, i.e. they can serve to inquire about the reasons of delaying or of not leaving. They can also express the opinion of the speaker in terms of what should be done: the addressee should not wait any longer, he should leave. These readings, additional possible readings in the case of *pourquoi*, are the "normal" readings when *que* is the question word.

Consider now (40), from Martinon (1927, 541):

(40) Que n'écrit-il en prose?
'Why doesn't he write in prose?'

This sentence expresses the speaker's surprise or perplexity: he is unable to see the reasons preventing the author from writing prose, an interpretation again different from that of the parallel structure with *pourquoi.*

We borrow a final example of this type again from Martinon (1927, 542):

(41) Que n'est-il encore vivant!
''Why' isn't he still alive!'

(41) shows the delicate status in between an interrogative and an exclamative interpretation; according to Martinon, it expresses "un souhait irréalisable" ("a nonrealizable wish").[15]

4.2.2.2. The periphrastic expression *que* + *avoir à* $V_{\text{infinitive}}$

The quasi-exclusive predominance of negative contexts for 'why'-like *que* raises the question whether there is no means of "asking" this type of question in a positive context. Let us first note that, contrary to the case of argumental *que* - both in true questions (cf. (29), (30)) and in pseudo-questions like (33), (35) -, 'why'-like *que* in (37)-(41) cannot alternate with *qu'est-ce que*, for reasons yet unclear:

(42)a. *Qu'est-ce que vous tardez?
b. *Qu'est-ce que vous ne partez (pas)?

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15. Though the preceding examples of 'why'-like *que* are due to a text of the 1920's, it is easy to find sentences of this type in contemporary written texts. (i) and (ii) are taken from a recent article on the war against Yugoslavia, published in Le Monde; "il" refers to the Serb regime:

(a) Que n'a-t-il choisi la discussion et l'échange au lieu de soutenir dans le plus grand cynisme le pilonnage de Sarajevo ou les exécutions collectives?
'Why haven't they chosen discussion and exchange instead of supporting in the utmost cynicism the shelling of Sarajevo or collective executions?'

(b) Que n'a-t-il transformé le Kosovo, terre sacrée des ancêtres, en un pays de développement, de culture et de paix, au lieu d'en supprimer autoritairement le statut d'autonomie, ...?
'Why haven't they transformed Kosovo, the sacred land of the ancestors, into a country of development, of culture and peace, instead of abolishing, in an authoritarian way, its autonomous status?'

Notice that the apparent contrast between 'why'-like *que* and *cossa*, namely the preferential appearance of *que* with *ne*, might be superficial: *ne* seems to have the function of "accommmodating" *que* with a 'why'-like reading; cf. note (14) on the analogous role of *donc*.

c. *Qu'est-ce qu'il n'écrit (pas) en prose?
d. *Qu'est-ce qu'il n'est (pas) encore vivant!
(same as (37), (39b), (40), (41), respectively)

Perhaps the "recherché" style - to which *qu'est-ce que* does not belong - is part of the licensing factors of 'why'-like *que*. There is, however, a means of using *qu'est-ce que*, though it is excluded as such in examples parallel to German *Was schreit der denn so?*; as shown by (43):

(43)a. *Qu'est-ce qu'il crie (comme ça)?
'Why does he shout (like that)?'
b. *Qu'est-ce qu'il nous regarde?
'Why does he look at us?'
c. *Qu'est-ce que tu ris comme ça?
'Why are you laughing like this?'

The intended meaning of these sentences can be expressed, in colloquial style, by using the verbal periphrase in (44):

(44)a. Qu'est-ce qu'il a à crier (comme ça)?
what is it that he has to shout (like this)
'Why does he shout (like this)?'
b. Qu'est-ce qu'il a à nous regarder?
'Why does he look at us?'
c. Qu'est-ce que tu as à rire comme ça?
'Why are you laughing like this?'

The meaning can include "annoyance or disapproval" as in the Pagotto case, but does not necessarily so.

Summarizing, we can say that in most cases the structures with 'why'-like *que* are not true questions, and that they are licensed by different contextual strategies, that is, either by the presence of particles (negative - without *pas* - or nonnegative) or by the verbal periphrase which however turns *que* into an argument.

4.2.3. Nonargumental 'how much'-like *que*

This instance of *que* appears to alternate with *comme*, as shown by (45)-(46):

(45)a. Qu'il vous aime!
'How much he loves you!'
b. Que cet enfant est grand!
what this child is tall
'How tall this child is!'
c. Qu'il écrit bien!
what he writes well
'How well he writes!'

(46)a. Comme il vous aime!
b. Comme cet enfant est grand!
c. Comme il écrit bien!
(same as (45a,b,c) respectively)

(45) and (46) are borrowed from Martinon, (1927, 502),[16] who also notes that in familiar style, *ce que* is acceptable in place of *que*. The same is true of *qu'est-ce que*:

(47) Qu'est-ce qu'il vous aime!
(same as (45a), (46a))

In summary, all the uses of Pagotto *cossa* described in section 3 are attested with French *que*, though only under very restrictive stylistic and licensing conditions as far as 'why'-like *que* is concerned. However, *que* differs from *cossa* in that it also has the standard interrogative uses which in Pagotto are apparently limited to *che*.

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16. Martinon seems to accept all these examples alike. In contemporary French, *que* has, with verbs, a literary flavour and is subject to certain restrictions, contrary to its use with adjectives and adverbs. We leave this aspect aside.

5. The types of use of German *was*

We noticed already at the outset of this article that German *was* combines the standard argumental use and some noncanonical uses. In this respect, then, German and French pattern together and contrast with Pagotto, where the canonical argumental use of *cossa* is not attested in main sentences.

5.1. Interrogative (true question) readings of *was*

Example (48) contains an instance of standard interrogative argumental WHAT. In (49a,b) *was* is a selected argument of a quantity/amount type.

(48) Was suchst du?
what look-for you
'What are you looking for?'

(49)a. Was verdient er?
'What does he earn?'
b. Was kostet das?
'What does that cost?'

5.2. *Was* in pseudo-questions

5.2.1. Argumental *was*

(50a,b) instantiate the interrogative-exclamation case, i.e. an interrogative structure with exclamative intonation and a surprise or disapproval reading (cf. (3), above).

(50)a. Was machst du (denn)?!
what do you 'denn'
'What are you doing?!'
b. Was bedeutet das?!
'What does this mean?!'

(Concerning *denn*, see section 5.2.2, below, and the dicsussion in section 7). There is no direct equivalent of the French rhetorical *que veux-tu* construction in German, but *was* can have a rhetorical interpretation in (51):

(51) Was macht das (schon)?
what makes that (already)
'What difference does it make?' = 'It makes no difference.'

5.2.2. Nonargumental 'why'-like *was*

This instance of *was*, contrary to French 'why'-like *que*, belongs to colloquial style; as can be seen from the ungrammaticality of (52a), it requires some form of "licensing"; if the particle *denn* is added, the sentence improves considerably, and with the further addition of the adverbial expression *so (blöd)* it attains full grammaticality (as shown respectively in (52b) and (52c)):

(52)a. *Was lacht der?
what laughs he
b. Was lacht der denn?
what laughs he 'denn'
c. Was schaust du mich so an?
what look you at-me so
'Why are you looking at me like that?'

Sentences of this type can be interpreted as true questions with an expression of surprise, but also a pseudo-questions with an expression of disapproval.

5.2.3. Nonargumental 'how (much)'-like *was*

This particular quasi-quantificational reading where *was* expresses intensity or extent is exemplified in (53):

(53)a. Was hast du dich verändert!
what have you yourself changed
'How you changed!'

b. Was ist das doch schwierig!
what is that 'doch' difficult
'How difficult that is!'

In summary, German *was* can have the same types of uses as Pagotto *cossa* and *che*.

6. The derivation of "pseudo"-questions: a (landing) site for *cossa/que/was*

In this section we put forth a proposal concerning the position occupied by the *wh*-elements *cossa* and *que* in "pseudo"-questions and extend the analysis to German *was* without arguing directly for it.

Our argumentation relies on Pollock et alii's (1999) analysis of *wh-in-situ* phenomena, which views the puzzling distributional asymmetry between French *que* and Bellunese *che* as a deceptive epiphenomenon.

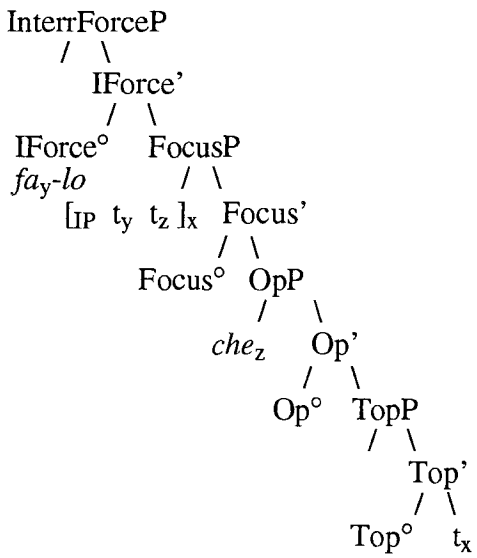
Pollock-Munaro-Poletto (1999) propose a new approach which exploits Rizzi's (1995) split-CP and the notion of remnant-IP movement proposed by Kayne & Pollock (1998). They assume that Bellunese *che* and French *que* are (structurally and) phonologically defective elements in the sense that they cannot bear a focus feature. In main *wh*-questions they raise to the specifier position of OpP, the lowest of the various CP projections activated in the CP layer; *wh*-movement is followed by raising of remnant IP to the specifier position of FocusP (or, in French, by raising of its head I° (with V° adjoined) to Foc°) in order to check the focus feature of interrogative clauses.

The different position of the *wh*-element with respect to the inflected verb in the two languages is determined by the subsequent derivational step: in French the further raising of *que* to the specifier position of ForceP, the highest functional projection inside the CP layer, in Bellunese adjunction of the inflected verb to the (non assertive) subject clitic pronoun inside the head Force° of the same projection; this produces the

deceptive appearance that in Bellunese, unlike French, we do not have movement of the *wh*-element to a sentence initial position[17].

The resulting structure in the case of Bellunese *che* is illustrated in (54):

(54)



Under this new analysis there is no genuine *wh*-in-situ in French or in Bellunese. All *wh*-phrases move; the seeming non-movement of the *wh*-phrase appearing in sentence internal position (*che*, *quoi*) depends on the raising to a left-peripheral position lower than the one occupied by the sentence initial *wh*-phrase (*cossa*, *que*), with remnant IP raising to a position in between[18].

Indeed, we are going to propose that, contrary to appearance, the fact that *cossa* and *que* share particular semantic properties (i.e. their specialization in non-argumental uses) as compared with other bare *wh*-words, is not due to the fact that

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17. Moreover, Pollock et alii propose that French *wh-in-situ* is itself a deceptive phenomenon deriving from the raising of the *wh*-phrase to the specifier of FocusP and from the subsequent topicalization of the remnant-IP into the specifier of a higher TopP.

18. In other words, adopting this approach there is no more contrast, with respect to overt (as opposed to covert) movement, between *che* and *cossa* in Bellunese and between *que* and *quoi* in French; any attempt to connect interpretation with syntactic structure will thus have to refer crucially to the specific landing site of the *wh*-element and not to the fact that the element moves *per se*.

they undergo overt syntactic movement to a left-peripheral position, but (beside their underspecification) to the fact that they move, in the relevant contexts, to one and the same structural position inside the CP-layer.

As noted, Pollock et alii propose that in Bellunese the inflected verb adjoins to the left of the subject clitic within the head Force°; as *cossa* precedes the inflected verb, it must be located either in [Spec,ForceP] or in the specifier of a higher functional projection. On the other hand, except in exclamatives (cf. (9) and (17), above, for different argumental and nonargumental uses), *cossa* can never be followed, in the particular contexts analyzed in section 3, by the complementizer *che* which, as argued by Munaro (forthcoming), occupies the head of a projection ExclP, whose specifier is the landing site of bare *wh*-phrases in main *wh*-exclamatives.[19] In exclamatives, therefore, we take *cossa* to appear in the configuration (55):

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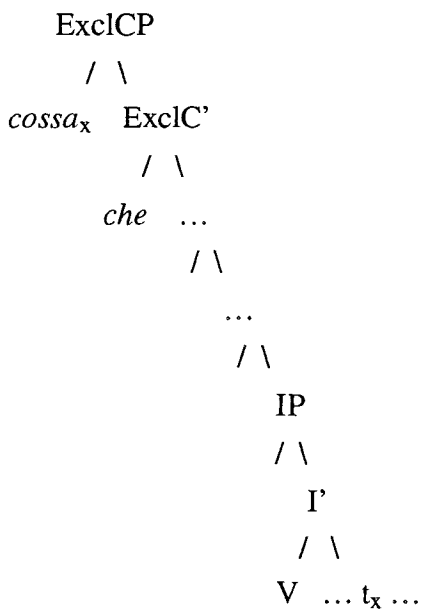
19 . Concerning the hypothesis that *wh*-phrases occupy a higher structural position in main exclamatives than in main interrogatives see also Benincà (1995). We exclude the possibility that the *wh*-item occupies a specifier position even higher than the one occupied by *wh*-items in exclamatives on the basis of the fact that the contexts we consider here always present inversion between the inflected verb and the subject clitic pronoun, which is traditionally taken to be a morpho-syntactic mark of 'interrogativity'; that such a feature must be somehow available in these cases is shown by the fact that pseudo-questions can, although they need not, be answered. This strongly argues for the *wh*-item being located in some projection belonging to the layer of CP connected to 'interrogativity', hence lower than ExclP.

(55)

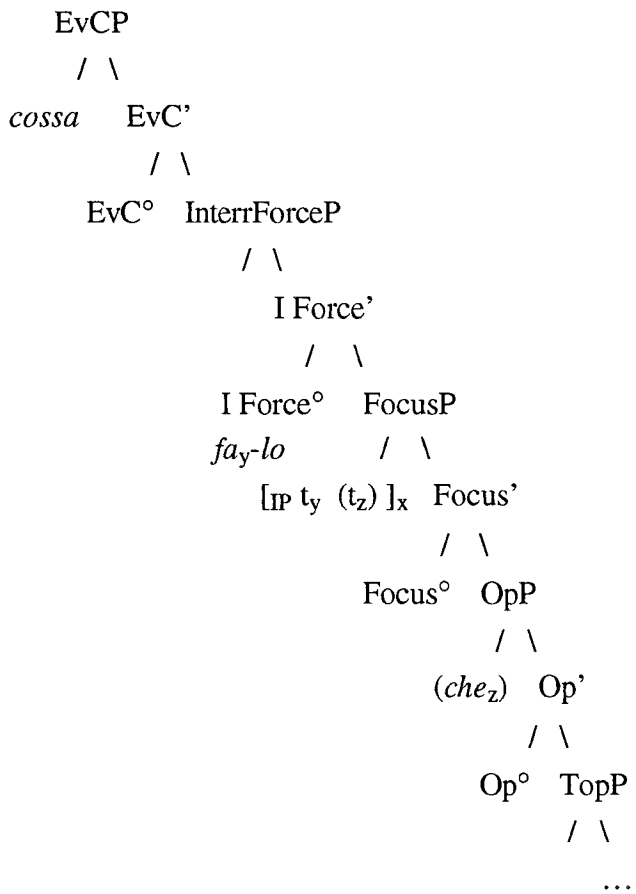


In all the other cases, *cossa* must occupy the specifier position of a functional projection lower than ExclP.

Conceptually, we would like to follow a by now well-established tendency to associate each interpretively relevant feature to a specific head (projection) in the functional structure of the sentence; hence we propose that, given the peculiar interpretive implications that are associated to the structures we have examined, the position occupied by *cossa* and *que* in this kind of sentences cannot be the same as the one of *wh*-phrases in ordinary *wh*-questions. Therefore, given what we said above, it must be the specifer of a projection located between ExclP and ForceP.

More precisely, we want to suggest that in pseudo-questions *cossa* and *que* occupy the specifier of a functional projection that we will call *Ev(aluative)-CP*. The relevant structure of (25) *Cossa fa-lo (che)?*, then, is (56).

(56)



From the interpretive point of view, this proposal captures under a single label the particular implication which is common to the various non-canonical readings of *cossa / que / was* discussed above, namely the fact that the speaker, in the lively expression of a feeling of surprise/annoyance/disapproval, conveys his personal evaluation of the event referred to. In this sense, in the spirit of Cinque (1999), we hypothesize that the head of this syntactic projection is associated with what can be informally defined as the 'evaluative attitude' of the speaker towards the event, and that such a head can be activated by filling the corresponding specifier position with *cossa / que / was* (in the same way as such information can be encoded in some languages in specific verbal

affixes filling the head of the EvaluativeP that Cinque (1999) identifies within the inflectional layer of the sentence).[20]

It is interesting to note that, as shown by examples (14c-d) or (27b), this particular reading is sometimes made possible by the insertion of modal-like predicates such as 'want', 'need' or 'go', which, under this approach, are likely to occupy the head Ev-C° (or possibly the lower head Ev°); indeed, the presence of these verbal forms seems to be able to determine the same kind of reading even with *wh*-words that usually do not admit it:

(57)a. U-tu che 'l sia 'ndàt andé?!
want-cl that cl-be gone where
'Where on earth may he have gone?!'

b. Va-lo a invidàr chi?!
go-cl to invite whom
'Whom on earth does he (intend to) invite?!'

With a sentence like (57a) the speaker intends to point out the silliness of the addressee's question, meaning that there can be no doubt about the place referred to; similarly, (57b) expresses the speaker's disapproval towards the subject's decision/ intention to invite a specific person.

We speculate that a similar role might be played by negation and by the auxiliary 'have' in the French examples analyzed in section 4.2.2.

Anticipating on the discussion in section 7, we may assume that the German modal particle *denn* is located in the lower EvP inside the inflectional layer.

As for the unavailability of the non-argumental readings in embedded questions we speculate that this might be seen as the effect of two joint factors: the intrinsic under-specification of these *wh*-elements on the one hand and the selectional properties of

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20. A viable alternative proposal would be that *cossa/que/was* occupy the specifier of a functional projection specifically devoted to host *wh*-constituents in rhetorical questions; empirical evidence from Italian and French for the existence of such a projection is provided in Obenauer & Poletto (1999).

the matrix predicate on the other; the latter, given the intrinsic feature deficiency of the *wh*-items, would suffice to determine the really interrogative interpretation.[21]

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21. Once we have identified a possible position for *cossa/que/was*, one natural question arises: are these elements merged there or do they raise from some clause-internal argumental position? Empirically, there are some data supporting the first alternative; one relevant piece of evidence is the fact that the particular reproachful interpretation usually associated with *cossa* is not available when it is inside a prepositional phrase:

(i)a. ??De cossa parle-li?!
of what speak-cl?!

b. Cossa parle-li de che?!
what speak-cl of what
'What on earth are they speaking about?!'

c. Parle-li de che?
speak-cl of what
'What are they speaking about?'

So, a sentence like (ia) is sharply deviant in the relevant reading, which can be expressed through (ib), that is, with non-prepositional *cossa* in initial position and prepositional *che in situ*; (ic) conveys the real *wh*-question interpretation.

Another piece of evidence for the base generation of *cossa* in sentence initial position comes from the data reported in section 3.2.2 above concerning its (un)interpretability with an embedded predicate; as we have seen, *cossa* can never be construed with the predicate of the embedded sentence, unless some licensing element (usually *che*) is inserted; this state of things would be completely unexpected if *cossa* were generated in an argumental position inside the embedded clause moving then to the specifier of some CP-projection of the matrix clause. On the contrary, the hypothesis of its merging in the position in which it surfaces correctly predicts the data.

Furthermore, from the conceptual point of view, one can appeal to the by now well-founded theory-internal assumption that, everything else being equal, the operation Merge is less costly than Move.

However, under this analysis an obvious problem is posed by sentences with a transitive predicate containing argumental *cossa* without *che in situ*, as it is not immediately clear how the verb can discharge its internal thematic role; considering these cases, we propose that the strategy of merging the *wh*-item directly in [Spec,Ev-CP] is employed in sentences with *why-like* reading (as well as in

7. Underspecification and contextual dependency

In this section, we will be concerned with the relation between the different readings of WHAT that we have isolated in the three linguistic systems. The central question will be: How many WHATs are there in each of the three languages we are examining? More precisely, how many lexical entries are there for *cossa*, *was*, *que*, respectively? This question also bears in a crucial way on the status of the lexical relation between *che* and *cossa*.

7.1. How many lexical items? The unity hypothesis

Let us consider the case in more general terms. Assume that in a language L_i a lexical item LI is associated with two or more quite different readings (and possibly different syntactic behaviours). This could perfectly well be an accident, and - as in numerous existing cases in all languages - it would appear reasonable to consider that

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the cases of pseudo-argumental *cossa* as long as it is doubled by *che*, which is the element that satisfies the argumental requirements of the verb); as for pseudo-questions and parentheticals containing only argumental *cossa-que-was* we assume base generation of the *wh*-item in an argumental position and successive raising to [Spec,Ev-CP], thereby activating the feature associated with the corresponding head and inducing the particular implication discussed above. Another case of ordinary *wh*-movement from an argumental position is probably represented by the *how-much-like* reading of *cossa-que-was*, which is the only case where the sentence receives a purely interrogative interpretation (and where, in Pagotto, *che* cannot appear *in situ* in cooccurrence with *cossa*); this case is also exceptional in the sense that this is the only use of *cossa* that seems to be restricted to a very limited class of verbs (*cost, weigh, measure*) characterized by the same argumental requirements; these two facts strongly suggest that in this case *cossa-que-was* are generated in an argumental position and undergo ordinary *wh*-movement to [Spec,ForceP] (or to [Spec, ExclP] in (17a)). As for the exclamative usage exemplified in (17b), given that there is no restriction as to the kind of predicate involved in this structure, this example may well fall under the case of merging of *cossa-que-was* in [Spec,Ev-CP] - cf. Corver (1990, ch. 5.4) on "base generation" in [Spec,CP] for split exclamative *wat* in Dutch -, with subsequent raising to [Spec,ExclP] where (owing to some interpretive constraint such as the scalar implicature effect discussed by Portner & Zanuttini (1998)), the quantificational value of *cossa* is automatically selected.

there are two or more homophonous LIs which are independent of each other and represent different lexical entries. In order to avoid more intricate cases, let us illustrate such a situation with the case of French *cousin*, which has two entirely different meanings, namely, 'cousin' and 'midge'.

Turning to *wh*-phrases, let us imagine that language L_i has a *wh*-phrase with two or more quite different readings. The same reasoning as before could apply; one might assume that there are two (or more) homophonous *wh*-phrases present in L_i, unless some relation between the different meanings pointed to the conclusion that only one LI should be hypothesized. Accordingly, the *wh*-phrases in (58a-d) could be homophones; in other words, they could correspond to different lexical items. Even counting the argumental *was* in (58a,b) as one and the same item, the difference of the readings might be taken to point to the existence of three homophones.

(58)a. Was suchst du?
'What are you looking for?'

b. Was du sagst!
'What you are telling (me)!'

c. Was lacht der denn so?
'Why does he laugh like that?'

d. Was hast du dich verändert!
'How you changed!'

The hypothesis that (58) exemplifies three different lexical *wh*-phrases which are accidentally homophonous could appear quite reasonable as a first step limited to German. Consideration of the other cases seen above - Pagotto and French - however, radically changes the problem. It is very unlikely that the equivalents of *was* in these languages also have different readings by chance. The hypothesis, therefore, is plausibly reversed: the phenomenon we are considering is not a case of homophones, but a case of *polysemy*. There is one *was* in German, a *wh*-phrase which has four readings (at least). Let us call this the unity hypothesis. Why the four readings are so different from each other is a problem that remains to be solved. The same considerations apply to *que* and *cossa* (for its two adverbial readings, in the latter case).

The unity hypothesis is strongly reinforced by a second basic fact: the noncanonical readings of the lexical items *was*, *que* and *cossa* are the same, and not just

randomly different readings in each of these languages. It is again very unlikely that WHAT should have the same spectrum of meanings across languages by chance. This, however, would be expected if we had to do with independent, accidentally homophonous *wh*-phrases. The fact that the readings associated with WHAT are the same - more precisely, that they seem to belong to a shared set of few elements - points to general principles which determine the relations between them.[22] We will see below that closer examination of 'why'-like *was / que / cossa* yields a strong argument in favor of the unity hypothesis.

7.2. The unique status of WHAT and the underspecification hypothesis

Once we adopt the hypothesis that there is a unique *wh*-phrase WHAT in French, German, and Pagotto, respectively, and not a set of homophones, a third crucial fact determines our approach. The "polysemy" of WHAT crucially contrasts with the fact that other bare *wh*-phrases do not similarly exhibit different readings.

In German, for example, the bare *wh*-phrases associated with the other basic restrictions like [+human], [+time], [+place] are limited to the corresponding readings: neither *wer* 'who' nor *wann* 'when' or *wo* 'where', to take just some examples, have other readings.[23]

Let us put forward the empirical hypothesis that this is generally the case (as it is in Pagotto, French, and German). There must then be a general reason excluding the

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22. The unity hypothesis presupposes, of course, that these readings are present more generally in other languages than the ones we consider here, an empirical hypothesis we explicitly make and hope to establish more strongly in the future.

23. There do exist cases where a *wh*-phrase is not strictly limited to the meaning following from its inherent restriction. French *où* 'where', when used as a (nonfree) relative phrase (that is, in the presence of an appropriate antecedent), can have a temporal meaning in, for example, *au moment où* 'at the moment when'. Such cases seem to be strictly limited (here to the spatio-temporal domain) and to rely on contextually given indicators (without an appropriate antecedent, only the 'place' interpretation is available); hence they do not seem to contradict the hypothesis that only WHAT is standardly open to several interpretations.

kind of polysemy found with WHAT in the case of the other *wh*-phrases. The reason seems to be that the "lexical" restrictions [+human], [+time], [+place], [+manner], ... are incompatible with other readings, being too specific. For example, it seems intuitively obvious that the lexical item *chi/qui/wer*, bearing the feature [+human], cannot express a meaning close to 'why', or to 'where' or 'what', to mention just these.

The unity hypothesis for WHAT intervenes strongly at this point. Since the crosslinguistic fact leads us to reject the hypothesis of unrelated homophones, one possibility is a type of feature specification of WHAT that IS compatible with the additional readings observed. In other words, the basic lexical restriction incorporated in WHAT is not in contradiction with the meanings 'why', 'how much', contrary to "intuition" - though we still maintain that these meanings are quite different from each other. Under an alternative hypothesis, which we will adopt below, the *wh*-phrase WHAT is optionally compatible with a "weakened" specification. Since weakening does not occur with the other *wh*-phrases, we are again led to assume a significant difference in the type of relevant feature(s) initially characterizing WHAT, and somehow allowing the optional weakening.

We are led to the conclusion, then, that the polysemy of WHAT is crucially linked to the type of semantic specification it bears (i.e., the lexical restriction determining the set of entities which can function as values of the variable), as well as the syntactic features that figure in its lexical entry. Its initial inherent specification must be poorer than in the case of the other bare *wh*-phrases; we assume therefore that *cossa / que / was* are underspecified in semantic (and possibly syntactic) features.

7.3. Deficient vs. nondeficient WHAT

So far the discussion in this section has been rather programmatic. We believe that the unity hypothesis for WHAT is essentially correct as such; on the other hand, the underspecification hypothesis, which represents one particular approach to implementing the unity hypothesis, remains to be made precise and firmly established. At present, we are not in a position to make the assumed poorer semantic status of WHAT explicit, the main reason being that our understanding of the semantic restriction(s) associated with interrogative WHAT in the three linguistic systems considered here is insufficient.

In particular, the conditions under which human and animate individuals are possible values of the variable bound by interrogative WHAT turn out to be extremely complex once a certain amount of relevant data is taken into account. The precise characterization of the restriction associated with WHAT - usually termed [-animate] or [-human] - is not clear.

In the absence of an account of these semantic aspects, we will concentrate on certain syntactic properties related to the different uses of WHAT. Earlier we considered the fundamental distributional asymmetry that is at the origin of this article, namely that between *che* and *cossa* in terms of their respective positions in the sentence, and formulated it in terms of functional sentence structure in section 6. Here we will be concerned with aspects of the internal structure of WHAT. While these aspects are directly relevant to the syntax of *que*, *cossa* and *was*, it is likely that they will also turn out to be crucial for the understanding of their semantic values.

In certain types of syntactic environments distributional asymmetries appear between the different instances of WHAT. We begin with the case of German and consider Pagotto and French in turn. A certain number of contrasts between noncanonical uses of *was* and standard interrogative *was* are pointed out in d'Avis (1996). In the light of Cardinaletti and Starke's (1994) work, the examples which follow, in part inspired from d'Avis's, can be taken to reveal differences relating to the completeness or incompleteness of the internal structure of their *wh*-phrases.

Let us begin by examining the behavior of standard interrogative *was* in different constructions, namely, (a) under coordination, (b) as contrastive focus, (c) in isolation.[24] We consider the different constructions in turn.

Standard interrogative *was* can appear as a member of a coordinated structure, as shown in (59); it is similar in this respect to other interrogative *wh*-phrases, including nonargumental ones like *warum* 'why' (cf. (60)).

(59) Wer oder was hat diese Ereignisse ausgelöst?
'Who or what caused these events?'

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24. The environments (a) and (b) are used in d'Avis (1996) for distinguishing standard interrogative *was* from the two nonargumental *was*; see also note 26. We add environment (c) to this list.

(60) Wann und warum hast du mit Max gesprochen?
'When and why did you talk to Max?'

Standard interrogative *was* can be contrastive focus, as in (61), like other interrogative *wh*-phrases, including *warum* (cf. (62)).

(61) Ich habe nicht gesagt: WER macht diesen Krach, sondern: WAS macht diesen Krach.
'I did not say, WHO makes this noise, but: WHAT makes this noise.'

(62) Ich habe nicht gesagt: WANN hast du mit ihm gesprochen, sondern: WARUM hast du mit ihm gesprochen.
'I did not say, WHEN did you talk to him, but: WHY did you talk to him.'

Finally, standard interrogative *was*, like other interrogative *wh*-phrases including *warum*, can appear in isolation, forming a truncated question:

(63) Sie schreiben also? Was?
you write, then what
'You are a writer, then? What do you write?'

(64) Sie haben das gefunden? Wo?
'You found it? Where?'

In the three constructions, standard interrogative *was* behaves like other interrogative *wh*-phrases. The picture is quite different in the case of the nonargumental uses of *was*, which we now turn to. 'Why'-like *was* and exclamative 'how much'-like *was* contrast with standard interrogative *was* (and other *wh*-phrases) under coordination, as shown in (65)-(66).[25]

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25. Argumental exclamative *wh*-phrases share the properties of argumental interrogatives:

(65) *Was und seit wann schreit der denn so?
'Why and since when does he shout like this?'

(66) *Was und wie lange der schon wieder schreit!
'How much and for how long he has been shouting again!'

'Why'-like *was* and exclamative 'how much'-like *was* are also unable to function as contrastive focus (see (67)-(68)), contrary to standard interrogative *was* and other *wh*-phrases.

(67) *Ich habe nicht gesagt: Seit WANN schreit der denn so, sondern: WAS schreit der denn so.
'I did not say, since WHEN has he been shouting like this, but: WHY has he been shouting like this.'

(68) *Es ist unglaublich, WAS der schreit, nicht WIELANGE der schon schreit.
'It is unbelievable HOW he is shouting, not FOR HOW LONG he has been shouting.'

Finally, 'why'-like *was* cannot appear in isolation, as a truncated question (see (69a)); notice that its quasi-synonym *warum*, in contrast, can function this way, with or without the modal "licenser" *denn* (see (69b)). As for 'how much'-like *was*, there are no analogous truncated exclamatives; we replace this type by the "afterthought construction" shown in (70).

(i) Wen und was sie alles gesehen hat!
who and what she all seen has
'The number of people and things she saw!'

(ii) Ich habe nicht gesagt: WEN sie alles gesehen hat, sondern: WAS sie alles gesehen hat!
I have not said WHO she all seen has, but: WHAT she all seen has

(69)a. Jetzt lachst du wieder so blöd. [Warum (denn) ?]
b. [*Was (denn)?]
'Now you are again laughing so stupidly. Why?'

(70)a. Er schreit schon wieder, und [wie !]
b. [*was !]
'He is shouting again, and how!'

These contrasts[26] between standard interrogative *was*, on the one hand, and 'why'-like *was* and exclamative 'how much'-like *was*, on the other, are strikingly parallel to the contrasts between the so-called strong and defective elements (among which, most prominently, personal pronouns) investigated by Cardinaletti and Starke (1994), and strongly suggest parallel deficiencies (in terms of the absence of certain maximal projections in the structure of the deficient *wh*-phrases).[27]

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26. D'Avis also points out contrasts involving multiple *wh*-questions with 'why'-like *was*. However, with the appropriate surprise interpretation (and intonation), in the presence of *denn*, this type of structure seems to Obenauer to be independently excluded even with standard question words; cf. (i)-(ii):

(i) *Was schreist du denn wen an?
'Why are you shouting at whom?'

(ii) *Wer macht denn was hier?
'Who is doing what here?'

(ii) contrasts with the acceptable *Wer macht was hier?*, without the surprise interpretation discussed in more detail below, in this section (irrelevantly, even in (ii), *denn* can also have another interpretation not implying surprise, but simply expressing some more general relation with the context of the utterance; in such cases (ii) is acceptable, but 'why'-like *was* is excluded independently because the latter type of *denn* is not an adequate "licenser"). We therefore consider data like (i), with 'why'-like *was*, as inconclusive with respect to the opposition between the two types of *was*.

27. Deficient elements, according to Cardinaletti and Starke, must appear in certain types of positions in order to "make up" for their missing structure/features. It suffices here to note that these

As announced above, let us now turn to the Pagotto counterparts of these data. As shown by (71), the argumental *wh*-phrases *chi* and *che* cannot be coordinated; there is, therefore, no counterpart of the German sentence (59). However, the exclusion of (71) is due to independent factors: coordination of sentence internal *wh*-phrases is generally excluded - as shown by (72a) - for reasons yet unknown. In sentence initial position, however, coordination is possible for the *wh*-elements that can appear there; cf. (72b).

(71) *?À-tu vist chi o che?
have you seen who or what

(72)a. *À-tu parlà con Piero quando e parché?
b. ?Quando e parché à-tu parlà con Piero?
'When and why did you talk with Piero?'

It is probably safe to assume, in fact, that argumental *che* is *in principle* capable of appearing in coordinated structures. Such an interpretation of (71)-(72) is motivated by the fact that the second diagnostic attests the "strong" status of interrogative *che*: it can be contrastive focus, as in (73), like other interrogative *wh*-phrases (cf. (74)).

(73) No o dita: é-lo CHI che fa sto rumor, ma: é-lo CHE che fa sto rumor.
not I-have said: is-cl who that makes this noise, but: is-cl what that makes...
'I did not say, WHO makes this noise, but: WHAT makes this noise.'

(74) No o dita: QUANDO à-tu parlà con lu, ma: PARCHÉ à-tu parlà con lu.
'I did not say, WHEN did you talk with him, but: WHY did you talk with him.'

Finally, interrogative *che*, like other interrogative *wh*-phrases, can appear in isolation, forming a truncated question, though in the case of *che* the result is perfect only with the discourse particle *po* 'then' added, a type of device we will also find in French, and which is not required with andé 'where':

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positional requirements cannot be met in the diagnostic environments utilized above, which accounts for the observed contrasts.

(75) Alora te scrive? Che ??(po)?
then you write what then
'You write, then? What?'

(76) L'à- tu catà? Andé?
it have-you found where
'You found it? Where?'

The situation is quite different in the case of the nonargumental uses of *cossa*. 'Why'-like *cossa* and exclamative 'degree'-*cossa* cannot be coordinated with another *wh*-phrase, as shown in (77) and (78).

(77) *Cossa e da quando zighe-lo cussí?
'Why and since when does he shout like this?'

(78) *Cossa e da quando che'l zigha da novo!
'How much and for how long he has been shouting again!'

'Why'-like *cossa* and exclamative 'degree'-*cossa* are unable to function as contrastive focus

(79) No o dita: da QUANDO zighe-lo cussí, ma: COSSA zighe-lo cussí.
'I did not say, since WHEN has he been shouting like this, but: WHY has he been shouting like this.'

(80) *Te savesse COSSA che'l zigha, no da QUANDO che'l zigha.
'It is unbelievable HOW he is shouting, not FOR HOW LONG he has been shouting.'

Finally, the two nonargumental *cossa* are unable to appear in isolation (even using the discourse particle *po*, in the case of 'why'-like *cossa*), while their respective close counterparts, parché and come, are perfect in such contexts:

(81) Adèss te ride da novo come an stupido. [Parché (po) ? / *Cossa (po) ?]

'Now you are again laughing so stupidly. Why?'

(82) Adèss al zighe da novo, e [come ! / *cossa !]

'Now he is shouting again, and how!'

The German and Pagotto paradigms just established show a clear parallelism in opposing argumental and nonargumental WHAT in terms of their respective structural strength. At first sight, the well-known fact that in French, standard interrogative *que* has a particularly deficient behaviour might be taken to indicate that the French paradigm is different in fundamental ways from the two preceding ones. However, it is not this particular difference which will turn out to be important (quite aside from the fact that there are also certain instances of strong argumental WHAT). In fact, in the comparison between the three languages, the crucial fact will be the uniform deficiency of the nonargumental instances of WHAT.

Before turning to the data, let us note once more that we will not attempt an account of the intricate syntax of argumental *que* and *quoi* in French. Though there exist a number of (mostly pre-generative) studies[28] the relations between these two elements are still insufficiently understood. While a comprehensive and coherent analysis would shed light on important points, it is not vital for our limited objective here.

The data are the following. Standard interrogative *que* is excluded from coordinated structures; *quoi* is not, and behaves here like other *wh*-phrases, including *pourquoi* 'why':

(83)a. [Qui ou quoi / *Qui ou que] vous a donné cette idée?

'Who or what gave you this idea?'

b. [Qui ou quoi / *Qui ou que] voudra-t-il consulter?

'Whom or what will he want to consult?'

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28. For studies of the relation between *que* and *quoi*, realized in earlier generative frameworks, see Obenauer (1976), Bouchard and Hirschbühler (1987).

(84) Quand et pourquoi as-tu parlé avec Jean?
'When and why did you talk to Jean?'

Quoi, but not *que*, can be contrastive focus, like other interrogative *wh*-phrases, including *pourquoi*:

(85) Je n'ai pas dit: QUI a fait ce bruit, mais: [QUOI / *QUE] a fait ce bruit.
'I did not say, WHO made this noise, but: WHAT made this noise.'

(86) Je n'ai pas dit: QUAND as-tu parlé avec lui, mais: POURQUOI as-tu parlé avec lui?
'I did not say, WHEN did you talk to him, but: WHY did you talk to him?

Quoi, but not *que*, can appear in isolation, like other interrogative *wh*-phrases including *pourquoi*, forming a truncated question (notice the use of the discourse particles *et* and *donc*, reminiscent of Pagotto *po*):

(87) Vous écrivez (donc) ? (Et) Quoi?
Vous écrivez (donc) ? (Et) *Que?
'You write, then? What?'

(88) Vous l'avez trouvé? Où ?(donc) ?
'You found it? Where?'

As for the nonargumental instances of WHAT, *quoi* is never found, but only *que*; *que* is excluded in coordinated structures. (89), with 'why'-like *que*, is independently excluded since *que* requires *ne* (alone), but other adverbial elements need the complete negation; given the obligatory violation of one of the two requirements, the status of (89) is inconclusive. (90), however, attests the weak status of exclamative *que*.

(89) *Que et depuis combien de temps n'écrit-il en prose?
'Why and for how long has he not written prose?'

(90) *Que et depuis combien de temps Jean est déjà malade!
'To what an extent and for how long he has been sick!'

'Why'-like *que* and exclamative degree *que* are also unable to function as contrastive focus (see (91)-(92)), contrary to interrogative *quoi* and other *wh*-phrases.

(91) *Je n'ai pas dit: DEPUIS QUAND n'écrit il pas en prose, mais: QUE n'écrit-il en prose.
'I didn't say, SINCE WHEN hasn't he been writing prose, but: WHY doesn't he write prose.'

(92) *Je n'ai pas dit: DEPUIS COMBIEN DE TEMPS Jean est malade!, mais: QUE Jean est malade!
'I didn't say, FOR HOW LONG Jean has been sick!, but: HOW SICK Jean is!'

Finally, 'why'-like *que* cannot appear in isolation, as a truncated question, while its quasi-synonym *pourquoi* can function this way (see (93)). Exclamative *que* is excluded in isolation in the "afterthought" construction; for once, the "specialized" exclamative word *comme* is also excluded, and only *comment* is acceptable, as shown in (94).

(93) Vous n'écrivez pas en prose. [*Que? / Pourquoi?]
'You don't write prose. Why?'

(94) Il rit de nouveau, et [*que ! / *comme ! / comment !]
'He is laughing again, and how!'

The diagnostics used, then, lead to slightly different results in French than in German and Pagotto. Let us summarize these results and try to interpret them.

On the descriptive level, there are two findings. The first is that the argumental instances of WHAT behave in part as strong elements (*was*, *cossa*, *quoi*)[29] and in part as deficient elements (*que*). This is, in fact, not unexpected given that in general, other argumental elements - pronouns - can also have either status. The second finding is that the nonargumental instances of WHAT (*was*, *cossa*, *que*), in contrast to the variable status of the argumental ones, are uniformly weak. This uniformity could be accidental, in which case it would have no particular significance. However, though the result concerns only three languages, we will tentatively assume that it is not due to chance. If we are correct, the uniformity is surprising, for at least two reasons.

To begin with, it might be the case that the obligatory deficiency has a general relation with nonargumenthood. This idea appears to be untenable: the deficient nonargumental instances of WHAT have close semantic counterparts which do not share their deficient status. Thus, the "specialized" interrogative *wh*-phrases *warum / parché / pourquoi* as well as exclamative *wie / come* are strong; only *comme* shows the behaviour of a deficient element. We conclude that there is no independent semantic reason imposing the deficient status of these elements. The fact that all six instances of nonargumental WHAT in the three languages are deficient is surprising and calls for explanation.

That the deficient status of nonargumental *was / cossa / que* should be considered surprising is also suggested by data from certain Northern Italian dialects. In investigating interrogative *wh*-phrases in these dialects, Poletto (in press) establishes a frequency scale for the appearance of deficient forms of *wh*-phrases, with *what* and *who* ranging highest. As for the *wh*-phrases we are concerned with, exclamative degree *how* is outside the scope of Poletto's study, but *why*, which figures in the lowest position, is attested, and is exclusively strong in the dialects examined.[30] From this

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29. Note that some (or all) of these might, in addition to being strong, also be deficient, i.e. they might have homophonous deficient forms (see Cardinaletti and Starke (1994) for numerous examples in the domain of pronouns). The diagnostics used above do not check for such a possibility, which is in fact irrelevant to our purpose here.

30. Poletto notes that the coexistence of strong and deficient forms of the same *wh*-phrase is not rare (for example, the Friulian dialect of S. Michele al Tagliamento has a strong form *dulà*, a homophonous weakly deficient form *dulà*, and a clitic form *do*, all meaning 'where'). She also notes

viewpoint, too, the uniformly weak status of *was / cossa / que* is unexpected and must be accounted for.

We assume, then, that the obligatorily deficient status of 'why'-like WHAT and exclamative degree-like WHAT is crucially linked to the fact that these elements are instances of WHAT. More precisely, the particular relation between these elements and argumental WHAT must be such that nonargumental WHAT is necessarily deficient. Let us therefore, in the spirit of Cardinaletti and Starke (1994), adopt the hypothesis that the deficient forms of WHAT are impoverished structurally with respect to the strong forms, in that one or more projections are missing in them.

We are not in a position here to identify the missing piece of structure, but only to specify its relevant properties. It must be linked to the expression of argumenthood, and contain the semantic restriction ([+thing], as suggested above). Nonargumental WHAT, then, can only be deficient, in contrast to *how* and *why* (and their counterparts).[31] Contrary to Cardinaletti and Starke, we do not take a stand concerning the functional character of the missing projection(s). Recall that this particular instance of structural deficiency is unique in the *wh*-paradigm, in that we do not find other cases of different meanings associated with one and the same *wh*-phrase, an exception related to the fact that [+thing] is the unmarked restriction.

To summarize, the uniformly deficient status of nonargumental WHAT in the three languages is an argument in favour of the unity hypothesis for WHAT. We assume that the deficient elements remain *wh*-words, that is, they keep their *wh*-feature. A crucial question that remains to be answered is how, in the absence of the semantic restriction [+thing], the deficient forms can get their interpretation. We will turn to this question in subsection 7.5.

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that for a given dialect, the frequency scale seems to be interpretable as an implicational scale: if a weak form exists for a lower-ranking *wh*-phrase, so does one for a higher-ranking one.

31. Of course there also exist deficient instances of WHAT which are argumental, like French *que* (that is, deficiency is not intrinsically linked to nonargumenthood). This type of deficiency is of another type and exists independently, as also shown by certain of the cases mentioned by Poletto.

7.4. Underspecification beyond that of interrogative WHAT

We have assumed that WHAT is normally underspecified in its lexical restriction, given that [+thing] is the unmarked restriction, and that this is the reason why WHAT in principle tolerates the stronger semantic deficiency we related to the supposed structural deficiency discussed above.

As is well-known, it has sometimes been argued that an analysis in terms of a radical semantic deficiency ("expletive *wh*", "scope marker") is adequate for the *was* of the German construction illustrated in (95) (though not necessarily for all the "scope markers" of the languages in which a similar strategy is available). Recently, the issue has been much debated again; see Dayal (1996), Horvath (1997), and the articles in Lutz and Müller (1996) for recent conflicting analyses as well as further references.

(95)a. Was glaubst du, wo er wohnt?
what believe you where he lives
'Where do you believe (that) he lives?'

b. Was glaubst du, wie stark er ist?
'How strong do you believe (that) he is?'
etc.

To the extent then, that an analysis of this construction in terms of a semantically impoverished (possibly restrictionless) WHAT can be shown to be on the right track, the construction provides an independent argument in favor of the hypothesis that WHAT is accessible to the type of semantic deficiency we argued for.

7.5. Deficiency and contextual dependency: the case of 'why'-like *was*

We showed earlier in this section that among the four main types of use of WHAT in French, German and Pagotto, two are structurally deficient, namely, the two nonargumental ones. At the same time, we were led to assume that these *wh*-phrases are also semantically deficient, with a weakened or possibly "lost" restriction. Consequently, questions arise as to the precise kind of semantic deficiency involved

and to the way interpretations are obtained, given that the nonargumental *wh*-phrases do have "meanings".

We will be able to give only a partial answer, while uncovering an intriguing interplay of relevant factors . In order to develop our answer, we will focus on one of the two *wh*-phrases, 'why'-like WHAT, and examine its properties more closely. As we already noted, 'why'-like *was* (section 5.2.2), *que* (section 4.2.2), and *cossa* (section 3.2.1.2) are subject, even apart from the "diagnostic contexts" used in section 7.3, to quite strong distributional restrictions which can be overcome through the addition of elements of a "modal" type. These restrictions are particularly visible when we contrast 'why'-like WHAT, in given environments, with "specialized" *wh*-phrases like *warum, pourquoi, parché*, that is, with *wh*-phrases carrying the inherent semantic restriction [+reason].[32]

Let us consider German as an exemplary case. German has different interrogative elements corresponding to Engl. *why*, *how come*, *what for*, that is, *wh*-phrases inquiring about the reason (cause, purpose, ...) for some action or situation, among which those in (96):

(96)a. *warum*
b. *weshalb, weswegen*
c. *wozu*
d. *wieso*

While these elements partially overlap in meaning, they also differ from each other in sometimes subtle ways (see Milner (1973) for remarks on some of these differences) which do not concern us here.

The meaning of *was* can be close to that of the elements in (96), but it is obligatorily closely linked to the expression of an attitude of the speaker ranging from

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32. As the following paragraph shows, "reason" is not more than a convenient label for a restriction whose precise definition can be left aside here. The question of the precise characterization of the meaning associated with 'why'-like WHAT seems even more difficult. Here too, we limit ourselves to the intuitive characterization.

mild surprise to strong disapproval.[33] Such a meaning can be present in (97) as well as (98), which do not display any obvious semantic difference:

(97) Warum rennst du so schnell?
why run you so fast
'Why are you running so fast?'

(98) Was rennst du so schnell?
(same as (97))

Because of its necessary association with the expression of surprise, *was* cannot occur in a number of environments where *warum*, the semantically and stylistically most neutral of these elements, appears without difficulty. One such case is illustrated by the contrast (99) vs. (100):

(99) Warum lacht (d)er?
'Why is he laughing?'

(100) *?Was lacht der?

(101)a. Was lacht der [denn] ?
b. [denn so (blöd)]
'Why is he laughing 'denn' / ... 'denn' so (stupidly) ?'

The unacceptability of (100) contrasts with the acceptability of (101a,b).

In the context of (101), *denn* expresses that there is something unexpected or even inadequate about the event at hand, to the eyes of the speaker. It is one of the contextual elements which can make a sentence containing 'why'-like *was* acceptable. *Denn* is a word with many uses;[34] in addition to its "modal" use, we will mention here

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33. We assume that one of the factors expressing positions on this scale is intonation.

34. *Denn* is one of the elements called "Modalpartikeln" or "Abtönungspartikeln", a set of free functional morphemes comprising *ja, etwa, schon, nur, auch, aber, vielleicht* and others. One of their common characteristics is that they are the homophones of "logico-contentive" ("logisch-inhaltlich",

only one other use which seems to be basically present in all its modal uses. This basic value consists in connecting the sentence in which it appears either with a preceding utterance or more generally with the discourse situation. With this use, *denn* might roughly be translated by *and*:

(102) Wo wohnt er denn?
'And where does he live?'

The same value of *denn* seems to be present in follow-up questions like (103), where it functions as a discourse particle in the sense already observed with Pagotto *po* and French *donc* (cf. (75), (81), (88) above).

(103) Er kommt? Wann denn?
'He is coming? When?'

On the other hand, (102)/(103) can also be interpreted - with a different intonation - as questions expressing surprise.

Keeping in mind the two uses - "pure" discourse particle vs. expression of the speaker's surprise - let us note that *denn* qua modal particle is excluded in non-questions:

(104) *Der Oskar lacht denn!

König (1977, 115)) elements which are (in the same order) the German counterparts of English *yes*, *approximately*, *already*, *only*, *also*, *but*, *perhaps* etc. (*denn* here corresponds to *because*, or more precisely to French *car*). We are not concerned here with the latter functions (conjunctions, adverbs, etc.), but with the use of *denn* etc. as modal particles. As such, these elements have no word-for-word counterparts in English (and in many other languages); they are standardly described as expressing the attitude of the speaker with respect to the propositional content of the sentence or towards the discourse situation.

See, within the rich literature about modal particles, Bayer (1991) and the articles collected in Weydt (1977).

Given (101), (104) might be expected to express the speaker's surprise at Oskar's laughing; the sentence, however, cannot have this meaning and is in fact ungrammatical.[35]

In Yes-No questions, on the other hand, *denn* can have a meaning very close to that observed with *was*:

(105) Ist es denn schon Mitternacht?
'But is it already midnight?'

Denn here expresses surprise; in the appropriate context the meaning can include disapproval:

(106) Ist der denn verrückt?
'But is he crazy?'

The *denn* we are concerned with in (101) (and (105)), then, is specialized in giving questions a surprise flavor, in a way comparable to certain instances of English *the hell/ on earth* etc. (which, however, form a constituent with a *wh*-phrase and do not

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35. In syntactic declaratives, surprise is expressed by the particle *ja*:

(i)a. Es ist ja schon Mitternacht!
(I'm amazed) It is already midnight!
b. Das schwimmt ja!
But it floats!

Denn is also incompatible with exclamatives:

(ii) Wie der [Ø / *denn] lügt!
'How (blatantly) he lies!'

appear in Yes-No questions). Contrary to *was*, *denn* is not by itself colloquial, but compatible with colloquial style.[36]

The attitude of the speaker can also be expressed, via *denn*, with *warum* or the other *wh*-words in (96) - cf. (107); in contrast with the case of *was*, the expression of surprise does not condition their use, but is optional:

(107)a. Warum lacht der denn?
b. Warum lacht der denn so blöd?
'But why does he laugh (so stupidly)?'

Denn is not the only contextual element facilitating the occurrence of 'why'-like *was*. The same type of obligatory "licensing" through another such element appeared already in our earlier example (98) *Was rennst du so schnell?*, as shown by the contrast with (108); *warum* is perfect without *so* (*schnell*):

(108) *Was rennst du?

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36. It is a common property of *wh*-questions and Yes-No-questions containing *denn* that they bring into play the situation in which speaker and hearer find themselves: in (101) they are in the presence of the person laughing, (105) is natural only in the context of a preceding utterance or another element of the situation pointing to the late hour.
The fact that *denn* makes reference to a preceding element of the discourse or the situation has been repeatedly stressed in the literature. Kühner und Stegmann (1914, vol. II, 116), a Grammar of Latin, mentions "die Fragesätze mit *nam*, welche lebhafte, leidenschaftliche Fragen enthalten, wie im Griechischen die Fragen mit γαρ und im Deutschen die mit *denn*. Solche Fragen beziehen sich auf vorher Ausgesagtes" ("... [Latin] interrogatives with *nam*, which contain vivid, passionate questions, like in Greek questions with γαρ and in German those with *denn*. Such questions refer to things said earlier ..."). König (1977, note 4) cites earlier work by Weydt where it is said that "... *denn* ... weist darauf hin, daß die Frage auf etwas vorher Angesprochenes Bezug nimmt" ("*denn* ... indicates that the question refers to something mentioned earlier"). König (ibid., 121ff.) develops this observation by noting that interrogatives containing *denn* can go back to aspects of the situation more generally (and not necessarily to linguistics aspects of it, i.e. not necessarily to preceding utterances).

(109)a. Warum rennst du [Ø / so schnell] ?
b.

Another example of this type of strategy is shown in (110), to be compared with (111) (with a 'why'-like interpretation of *was*).

(110)a. Was schreit der schon wieder?
b. why shouts he already again

(111)a. Was schreit der [*Ø / OKdenn so] ?
b.

Schon wieder expresses that the shouting occurs with short intervals and may be conceived as expression of the speaker's attitude concerning the event. This is again the case with *so*, indicating a degree (considered surprising and possibly excessive). Notice that the facts are parallel for *lachen*, which is intransitive only, and *schreien*, ambiguously transitive or intransitive.

(112) is another relevant example.

(112)a.??Was machst du die Vorhänge zu?
b. Was machst du am helllichten Tag die Vorhänge zu?
'Why are you closing the curtain (in the middle of the day)?'

The PP *am helllichten Tag* (lit. 'in broad daylight'), pointed out by Josef Bayer (personal communication), again facilitates the presence of 'why'-like *was*.

Let us consider again the different elements which can play a kind of licensing role for *was*, and which we repeat under (113), in an obviously open list.

(113)a. *denn*
b. *so*
c. *(schon) wieder*
d. *am helllichten Tag*

Certain distinctions can be drawn between these elements. *Denn* is the modal particle with no precise lexical meaning and the grammatical function of attributing a modal

value to the sentence. This property opposes *denn* to the three other elements collectively, which do not have such a function, but which have a lexical content that increases from (b) to (d). They do not grammaticalize an attitude of the speaker, like *denn*, but rather represent "noteworthy" or "extraordinary" aspects of the content of the sentence, in fact "reasons" for the surprise felt. Each of them realizes this function in a different way, according to their lexical status and semantic precision: *so* as degree or manner adverb, *(schon) wieder* as an expression of repetition and *am helllichten Tag* as a full adverbial PP.

The difference between *denn* and the other three items seems essential: the modal particle *denn*, in fact an affective element, contrasts with the elements expressing what the speaker perceives as the factual basis of the surprise he feels.[37] There is also another type of evidence for this distinction, namely the fact that *denn* can cooccur, without redundancy, with the elements (b)-(d):

(114)a. Was rennst du denn so schnell?
b. Was schreit der denn schon wieder?
c. Was machst du denn am helllichten Tag die Vorhänge zu?

We conclude that *denn* is the fundamental element among the apparent "licensers" of 'why'-like *was*. More precisely, as anticipated in section 6, we take it to be located in the functional projection EvP hypothesized by Cinque (1999) in the highest portion of IP.[38] Given our assumption that 'why'-like *que / cossa / was* come to occupy [Spec,EvCP], this amounts to having two different projections related to the expression of the speaker's attitude in the sentence, a case of "matching" perhaps comparable to the one pointed out in Rizzi (1997) between the finiteness specification in the C system and that in the I system.[39]

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37. In being affective, *denn* also contrasts with adverbs like *erstaunlicherweise* 'surprisingly', located by Cinque (1999) in Spec,EvP.

38. We leave open the question whether the other types of use of the particle *denn* also bring into play the projection EvP.

39. One possible way of obtaining the "Matching effect" in our case is the following. Let us assume that *denn*, qua particle, is a head, and that it can head the EvP in IP. Modal particles are

We already noted that intonation plays an important role in sentences with surprise modality, and assumed that the range and intensity of the relevant attitudes - from light surprise to strong disapproval - is in part expressed through it. Intonation is also, we now assume, what makes the optional absence of *denn* in sentences like (114a-c) possible: in the presence of *so*, *(schon) wieder*, *am helllichten Tag*, etc., "surprise" intonation suffices to license EvP with a covert head, in our terms, covert *denn*.

In the light of our present understanding of "licensing" by modal elements, let us now come back to the central point of this subsection, namely, the nature of the semantic deficiency of 'why'-like *was*. A relevant observation is the following.

The almost intermediate (instead of unacceptable) status of (112a) *??Was machst du die Vorhänge zu?* suggests that elements of the predicate itself also can contribute to "accommodating" *was* in the absence of overt *denn*, and that this effect should not be limited to elements which in a sense are adjuncts of the predicate. This idea leads to

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generally tied to particular syntactic environments (i.e., sentence types; cf. König (1977), Bayer (1991, 260ff), a.o.), a point we stressed above in relation with *denn* and *ja*. *Denn* qua particle is strictly limited to interrogatives (*wh*- and Yes-No), which might be expressed by its having a feature that must be checked. In a case like (i):

(i) Wo steckt er denn?
'Where the hell is he?'

wo could be attracted to [Spec,EvP] if *denn* had an (uninterpretable) feature [+*wh*]; *denn*'s *wh*-feature would be checked there. A second process could take place at the same time: the *wh*-word might be assigned the feature [+Ev] by *denn*, insuring its movement up to [Spec,EvCP].

For this device to derive the "matching effect" on a general basis, several conditions may have to be met. In Yes-No questions, the checking of *denn*'s *wh*-feature must be performed by a Yes-No operator which would have to be merged below EvP. The same requirement applies to 'why'-like *was*. Furthermore, the verb must be able to skip the filled head position of EvP on its way to the C-domain. Whether these assumptions turn out to be correct will be left open here. Alternatively, a dependency of a different type might require the direct matching of some feature shared by *denn* and C°EvP.

The "checking stopover" suggested for cases like (i), though different in its motivation, shares essential properties with a similar device proposed by Hasegawa (1999) for his ParticleP in exclamatives.

the hypothesis that "remarkable" -in the sense of "specific, nonneutral"- informational content is essential for the "licensing" of 'why'-like *was*. In other words, the presence of *was* in the sentence should be more difficult if the lexical information is minimal, in the intuitive sense of "neutral", "weak". Examples like (115a,b) seem to confirm this hypothesis.[40]

(115)a. *Was machst du das denn?
'Why are you doing this?'
b. *Was tust du denn etwas?
'Why are you doing something?'

It is visibly the difference in informational content between *die Vorhänge zumachen* 'close the curtains' and the "neutral" predicate *das tun* 'do it/that' that accounts for the contrast between (112a,b) and (115a). Notice in particular that *denn* is present in (115a,b), but in no way sufficient to ensure acceptability.

On the other hand, substitution of *warum* for *was* leads to entirely acceptable sentences, even without *denn*:

(116)a. Warum macht er das (denn) ?
b. Warum tust du (denn) etwas?

As for (115a,b), native speakers, beyond simply rejecting these sentences, qualify them as (quasi) incomprehensible, and point out that it is *was* in particular which appears to be uninterpretable; *was* does not seem to have any content here.[41] This contrasts with cases like (108) **Was rennst du?* 'Why are you running?', where, in spite of its unacceptable status, the 'why'-like interpretation of *was* seems to be possible. More directly, (115) contrasts with (117), which has an entirely parallel structure, but a verb with more "content".

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40. We are indebted for example (115b) to Josef Bayer.

41. Josef Bayer points out to us that (115a) can become acceptable under particular circumstances, for example in a situation where *das* is used deictically and where the predicate *das machen* "points" to some sufficiently remarkable action being performed. Clearly, this improvement of the status of the sentence is due to its content being richer than in the neutral use of (115a) considered in the text.

(117) (?)Was versteckst du es denn?
'Why are you hiding it?'

We take these judgments to provide the answer to our earlier question concerning the type of semantic "weakening" correlated with structural deficiency in the case of 'why'-like *was*. Rather than a true "weakening", difficult to conceive in concrete ways, as noted, it seems to be the total absence of any semantic restriction that we are dealing with.[42] Consequently, no range is associated to 'why'-like *was*.

If this assumption is correct, how does "empty" *was* get an interpretation, overcoming the violation, and why is the actual interpretation a 'why'-like one? We have shown in what precedes, in particular through the comparison of *was* and *warum*, that a number of factors intervene in the acceptability, hence the interpretation, of sentences containing this *was*. Leaving aside intonation, these factors include (at least) those in (118).

(118)a. sentence type (*wh*-interrogative),
b. the projection EvP, contributing evaluative - more precisely surprise - modality,
c. "contentful" elements in the sentence.

It is thus not possible to assume that in a *wh*-interrogative, in the absence of a restriction in the *wh*-phrase, the grammar provides a 'why'-like reading, in the sense of a "default" reading always available. On the contrary, the presence of evaluative modality is crucial, and more precisely, the presence of a particular type of this modality, namely the type "surprise" (to give an example, we assume that, if there existed a (non-surprise) analogue of *denn* expressing a "satisfaction" evaluation by the speaker - i.e. an analogue related to the meaning 'fortunately' - no 'why'-like reading could be assigned).

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42. Our conclusion confirms for the case of 'why'-like *was* an intuition formulated by d'Avis (1996) for this *wh*-phrase as well as for exclamative degree *was* and the *was* of the *was ... w* construction.

Factor (118c) is plausibly pragmatically determined, since what counts as contentful may vary according to the situation; however, the way (118c) intervenes - which is not clear to us - may involve a syntactic/semantic device yet to be formulated.

Let us come back to the role of modality. The crucial role of "surprise" in the licensing of 'why'-like *was* is also shown by the fact that the *wh*-word is incompatible with -realis Tense; *warum* is compatible with it:

(119)a. *Was wirst / würdest du es denn verstecken?
b. Warum wirst / würdest du es verstecken?
'Why are you going to / why would you hide it?' [43]

To be acceptable, a sentence with 'why'-like *was* must imply the truth of the propositional content.[44] In other words, the contrast in (119) suggests that among the different instances of *denn*, there is a "factive surprise *denn*", different from the "nonfactive surprise *denn*" in (120):

(120) Warum würdest du es denn verstecken?
(But) Why would you hide it?

and that only "factive surprise *denn*" can contribute to "licensing" 'why'-like *was*. While we do not understand the process yet, we are led to assume that the 'why'-like interpretation results from the interplay of the semantically empty [$_{+wh}$ *was*], on the one hand, and the factors in (118) on the other, including factivity. Given the

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43. Analogous contrasts obtain for irrealis in the past:

(i) *Was hättest du es denn versteckt?
Warum hättest du es denn versteckt?
'Why would you have hidden it?'

44. For a similar case with argumental *cossa*, cf. note 5.

extensive parallelism between 'why'-like *was* and its French and Pagotto counterparts, we obviously extend this assumption to the latter two.[45]

Let us add here a brief digression on the other nonargumental WHAT, that is, the one expressing exclamative degree. Since it is structurally and, we assume, semantically deficient in ways parallel to 'why'-like WHAT, the interpretation it eventually gets should again be construed from elements of the sentential context. Given the little we know about modality in exclamatives, the question why nonargumental WHAT has a 'why'-like interpretation in interrogatives, but a degree reading in exclamatives may a priori involve quite different alternative reasons.[46] It appears, however, that the restriction "degree" is in a sense a "minimal" solution, as one would expect it to be.

Indeed, basic data from a certain number of languages, among which English, French and German, show that only "degree" is, in the unmarked case, a possible

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45. In Latin, the "neutral accusative" form *quid* 'what' could be used with the meaning 'why', and the analogous form of the pronoun *id* 'that' with a meaning corresponding to 'for that reason' (Kühner and Stegmann, vol. I, 279):

(i) Loquere: quid venisti?
'Tell me: why did you come?'

(ii) Id venimus.
'We have come for that reason.'

The absence of literal analogues of (ii) -cf. the German (iii)- suggests that the "reason interpretation" in Latin and and the 'why'-like reading of WHAT in French, German and Pagotto involve different processes.

(iii) *Ich bin das gekommen.
(iv) Ich bin darum gekommen.
'I came for that reason.'

46. The restriction "reason" is not a priori incompatible with exclamation:

(i) (You won't believe) for what an astonishing reason he decided to disappear!

restriction for exclamative quantification (cf. Elliott (1974) and Grimshaw (1977) for English, and Obenauer (1994, ch. III) for French). This is illustrated, in English, by (121)/(122).

(121)a. How tall Jim is!
b. What a car he bought!

(122)a. *?Who Jim met!
b. *?Where he found it!

Let us assume that in languages (and constructions - cf. *It's amazing who Jim met*) where "nondegree" *wh*-words can appear with an exclamative reading, they are in fact "accommodated" by additional devices. Turning back to the question of construal of a restriction for exclamative *was / que / cossa*, we note that economy considerations will exclude resorting to such devices and limit construal of a restriction to the type of restrictions that do not depend on them; this is what one finds.

Needless to say, the question of the precise construal of the exclamative degree reading of WHAT remains open.

To summarize, we examined in this section two types of distributional restrictions affecting nonargument WHAT, namely, the restrictions revealed by the "diagnostic environments" of subsection 7.3, whose nature is syntactic in the first place, and the restrictions related to the need for "modal licensing" of 'why'-like WHAT, which are of a semantic nature. Both were argued to reduce, in the end, to the same cause, namely, structural deficiency in Cardinaletti and Starke's (1994) sense.

The extensive crosslinguistic parallelism shown by the different types of use of WHAT motivates the hypothesis of the "unity" of WHAT in the lexicon. The semantic vacuity of the nonargumental WHATs and their need for "licensing" are unexpected under an a priori possible alternative hypothesis,[47] namely, the hypothesis that these WHATs are independent *wh*-phrases like *warum / wozu / weshalb* and *wie*. Deficiency and the resulting loss of features make sense *within* one and the same lexical element; independent elements should have their inherent meaning (as they indeed do - cf. *warum* etc.).

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47. Not a very plausible one, for the reason just given.

This reasoning has the following implication for the relation between *cossa* and *che*. If *cossa* were an item independent of *che*, the 'why'-like reading would be extremely surprising, since there would be no reason why *cossa* should have exactly (the needs for licensing and) the (derived) meaning of "impoverished" WHAT. We conclude that *che* and *cossa* are just one lexical item, differing in feature content and spelled out differently.

8. Conclusion

In this paper we have argued for the existence, within the CP-layer of the sentence structure, of a functional projection Ev(aluative)CP whose specifier can be filled across languages by the *wh*-element WHAT and other *wh*-phrases, thereby expressing the speaker's attitude towards the event referred to.

The variety of possible interpretations of WHAT finds a natural framework of explanation within the hypothesis, strongly suggested by the crosslinguistic parallelisms on the syntactic and semantic level, that they all derive from the initially weaker - in the sence of "unmarked" - specification of WHAT, in comparison with the other *wh*-phrases.

The North-Eastern Italian dialect Pagotto exhibits overtly a distinction which is covertly present in French and German, namely that reflecting the division of labor between *wh*-elements that appear in different positions in the left periphery. The distinction, contrary to what might be expected a priori, is not made along the lines of the [±argumental] divide. Rather, it opposes standard interrogative interpretation in the sense of "genuine request for information" to several other types, gathered together under the label "pseudo-interrogatives", among which exclamation and non genuine questions.

The syntactic reflex of this distinction is the appearance of standard interrogative *wh*-phrases in the lower CP-domain, as compared to the higher sites determined by the functional projections relevant for the "noncanonical" uses of WHAT. Given this distinction, *cossa* is the "second face" of *che* in that it can move to the sites which are inaccessible to *che*.

The striking overt differences between *was* and *que*, always sentence initial, on the one hand, and *che/cossa,* on the other, reduce to the simple interaction between the landing site requirements and the possibility for *che* to stay in a low CP-position.

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On the relative position of *beaucoup, guère, peu, rien* and *trop* in French.[1]

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1. Introduction

Adverbs and quantifiers have been studied exstensively in linguistics and several accounts of their distributional properties have been provided under different approaches. In the generative framework, their nature and behaviour have been considered as possible clues for the internal structure of the sentence. Since Pollock (1989), word order variation concerning adverbs has been dealt with by assuming that it is the verb that moves around the adverb, which always remains *in situ*. Instead, quantifiers are taken to move leftward in the sentence, towards a 'scope' position, either in visible syntax or in Logical Form. What we have seen is an attempt to provide simple and elegant accounts of apparently puzzling facts.

Among the various hypotheses made, I will be mainly concerned with Cinque (1999)'s proposal that there is a single universal hierarchy of adverbs, where each adverb occupies the SPEC position of a functional projection marked with a certain feature (aspect, tense, modality, etc). The idea is that adverbs are licensed by the relevant feature associated with their corresponding functional head.

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My purpose in this article is to examine a few French adverbs and quantifiers, not considered in Cinque '99 and to try to determine their position in the hierarchy proposed there. Most of them actually belong to both categories. In fact, while *rien* 'nothing' can be used only as a negative quantifier, *beaucoup* 'a lot', *peu* 'little', *trop* 'too much', *guère* 'not much' can be used either as quantifiers or as adverbs. It would be difficult to establish whether they are actually the same words being used in two ways – as *bare quantifiers* and as *quantificational adverbs* — or distinct homonymic words.

The testing method is the same as Cinque's (1999) — namely, a comparison between minimal pairs of sentences in which two adverbs appear in opposite orders.

(1) a. Pierre a *tout beaucoup* aimé.
Pierre has everything a-lot liked.
Pierre liked everything a lot.
b. *Pierre a *beaucoup tout* aimé.

The order accepted by French native speakers is taken as relevant to establish the position of the examined items in the hierarchy. It seems that each couple adverb-quantifer (i.e. *guère, trop, beaucoup / peu* both as QPs and as AdvPs) occupies exactly the same position in the hierarchy. Despite some difficulties in testing some couples of adverbs due to their semantic incompatibility (for example, *beaucoup* 'a lot' and *complètement* 'completely'), the data point decisively to this direction. This implies the existence, in the hierarchy, of aspectual heads licensing both adverbs and quantifiers by checking the same features. The identified positions are presumably the scope positions to which quantifiers move in overt syntax. I will give some suggestions concerning the names of some heads' features.

This article is organized as follows: in the first part I will present the full hierarchy of Cinque (1999), which is the basis for my analysis; then, I will examine the distributional properties of the QPs/quantificational AdvPs with respect to the auxiliary and lexical verbs in active and passive sentences. The third part is devoted to the crucial data concerning the location of the examined items, followed by an addictional section meant to show that, if *beaucoup, guère, peu, rien and trop* are tested with "lower" adverbs other than those presented in the key-sentences, their mutual order is consistent with the identified positions.

2. The hierarchy

The AdvP hierarchy is given in English, since this is the original version of Cinque's work. However, it is positively confirmed by French data. There are three French items; *tout*, corresponding to English *everything,* and two duration adverbs, *longtemps* and *longuement,* which can be both roughly translated with *for long*. The location of *tout* was identified in Cinque ('99), while I have added *longtemps* and *longuement* (see Vecchiato ('99)). These two adverbs exactly cover the position of *brièvement* 'briefly', formerly established as the only duration adverb in the hierarchy.

[*frankly* MOOD$_{\text{speech act}}$ [*fortunately* MOOD$_{\text{evaluative}}$ [*allegedly* MOOD$_{\text{evidential}}$ [*probably* MOOD$_{\text{epistemic}}$ [*once* T(Past) [*then* T(Future) [*perhaps* MOOD$_{\text{irrealis}}$ [*necessarily* MOOD$_{\text{necessity}}$ [*possibly* MOD$_{\text{possibility}}$ [*usually* ASP$_{\text{habitual}}$ [*again* ASP$_{\text{repetitive (I)}}$ [*often* ASP$_{\text{frequentative(I)}}$ [*intentionally* MOD$_{\text{volitional}}$ [*quickly* ASP$_{\text{celerative (I)}}$ [*already* T (Anterior) [*no longer* ASP$_{\text{terminative}}$ [*still* ASP$_{\text{continuative}}$ [*always* ASP$_{\text{perfect}}$ [*just* ASP$_{\text{retrospective}}$ [*soon* ASP$_{\text{proximative}}$ [*longtemps* ASP$_{\text{durative (I)}}$ [*longuement* ASP$_{\text{durative (II)}}$ [*characteristically* (?) ASP$_{\text{generic/progressive}}$ [*almost* ASP$_{\text{prospective}}$ [*completely* ASP$_{\text{SgCompletive (I)}}$ [*tout* ASP$_{\text{PlCompletive}}$ [*well* Voice [*fast / early* ASP$_{\text{celerative (II)}}$ [*completely* ASP$_{\text{SgCompletive (II)}}$ [*again* ASP$_{\text{repetitive (II)}}$ [*often* ASP$_{\text{frequentative (II)}}$]]]]]]]]]]]]]]]]

It will be seen that all the examined items occupy "lower" positions in this hierarchy, namely, between *presque* 'almost' and *bien* 'well'. Adverbs directly occupy their own position in the hierarchy, whereas quantifiers move leftward in the sentence, from the canonical object position [V, NP] towards their 'scope' position, where their features are checked [2]. The scope position A'-binds the canonical object position.

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2. "Lower" adverbs and quantifiers are delimited on the left by the past participle in Italian — presumably because the Italian past participle is allowed to move further to the left in the sentence than its French equivalent. Then, the apparent word order of an Italian sentence looks as if *tutto* (everything) has remained in its base position, but in fact it has not:

(2) Il a [tout$_i$ [compris t$_i$]].
He has everything understood
He understood everything

3. Distributional properties

In order to establish the distribution of French QPs/quantificational AdvPs in the sentence, three positions have been taken into account: (i) the position which immediately follows the auxiliary verb; (ii) the position which immediately follows the active past participle or the passive auxiliary *été* (been); (iii) the position between the active past participle and the direct object or between the auxiliary *été* and the passive participle. Sentences (3a-c) illustrate this pattern. When French bare QPs are the subjects of passive sentences, they are allowed not to be in [Spec, IP] if the expletive pronoun *il* (it) is used (sentence (4)). In this configuration, they are thought to occupy their base position.

We will see that *guère* 'not much', *trop* 'too much' and *rien* 'nothing' cannot follow the past participle, either as adverbs or as quantifiers, except if they have a focus reading. Instead, for some reasons, *beaucoup* 'a lot' and *peu* 'little', as quantifiers, can also occur in the (post-participial) object position: [V', NP]. We will also see that the patterns of distribution vary considerably with respect to the passive auxiliary *été* (been). I will argue that this is not due to AdvP-movement, but that the verbal head moves further leftwards than the past participle through being an auxiliary.

(3) a. Marie a *soigneusement* peigné François.
Marie has carefully combed François.
Marie combed François carefully.

(i) Ha capito$_k$ [tutto$_j$ [t$_k$ t$_j$]]
pro has understood everything
He understood everything

b. Marie a peigné *soigneusement* François.
c. Marie a peigné François *soigneusement.*

(4) Il a *beaucoup* été fait pour eux.
It_{expl} has a-lot been done for them
A lot was done for them.

♦ ***Guère***[3] **and *trop***

The distribution of *guère* and *trop* varies with respect to the passive auxiliary *été* 'been' according to their being quantifiers or adverbs. Namely, adverbs can appear in position (ii) in passive sentences, whereas quantifiers cannot.

Guère-QP:

(5) a. Michel n'a *guère* mangé.
Michel not_{cl} has not-much eaten
Michel didn't eat much
b. *Michel n'a mangé *guère.*

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[3]. As a verb modifier, *guère* is currently used with the negative marker *ne* 'not' in Modern French. These two negative expressions are interpreted as just one semantic negation ("Negative Concord"): *Je n'aime guère ce quartier* 'I don't like this district much'. As a bare quantifier it is very formal: *Le nom d'Alain ne me disait guère* 'The name of Alain didn't tell me much'. *Guère* was used without *ne*, with a positive meaning, in Middle French: *Si nature ne prête un peu, il est malaisé que l'art et l'industrie aillent guiere avant* (Montaigne) 'If Nature doesn't help a bit, it is difficult that industry and the arts make a lot of progress'. In Modern French, it can actually be used without *ne* in elliptical aswers or as an adverb modifier, though it keeps its current negative meaning: *Tu connais l'opium? -- Guère* (Malraux) 'Do you know opium? – Not much'; *Une autre possibilité, guère moins irritante,*

(6) a. Il n'a *guère* été fait pour les sauver.
It$_{expl}$ not$_{cl}$ has not-much been done to them$_{cl}$ save
Not much was done to save them.
b. *Il n'a été *guère* fait pour les sauver.
c. *Il n'a été fait *guère* pour les sauver.

Trop-QP:

(7) a. Maurice a *trop* mangé.
Maurice has too much eaten
Maurice ate too much.
b. * Maurice a mangé *trop*.

(8) a. Il a *trop* été fait pour le repas; on a gaspillé la nourriture.
It$_{expl}$ has too much been done for the lunch PRON$_{impers}$ has wasted the food
Too much was done for lunch; we wasted the food.
b. *Il a été *trop* fait pour le repas; on a gaspillé la nourriture.
c. *Il a été fait *trop* pour le repas; on a gaspillé la nourriture.

Guère-AdvP:

(9) a. Michel n'a *guère* changé l'ameublement.
M. not$_{cl}$ has not much changed the furniture
Michel hasn't changed the furniture much.
b. *Michel n'a changé *guère* l'ameublement.
c. *Michel n'a changé l'ameublement *guère*.

était qu'il s'en fichait peut-être 'Another, not much less sad, possibility was that he didn't give a damn about it'. For an analysis of *guère* in a hierarchy of negative projections, see Zanuttini ('97).

(10) a. Ce livre n'a *guère* été lu l'année dernière.
This book not $_{cl}$ has not-much been read the year last
This book wasn't read much last year.
b. Ce livre n'a été *guère* lu l'année dernière.
c. *Ce livre n'a été lu *guère* l'année dernière

Trop-AdvP:

(11) a. Maurice a *trop* étudié la partition.
M. has too-much studied the score
Maurice studied the score too much.
b. *Maurice a étudié *trop* la partition.
*Maurice a étudié la partition *trop.*

(12) a. La partition a *trop* été changée.
The score has too-much been changed
The score was changed too much.
b. La partition a été *trop* changée.
c. *La partition a été changée *trop.*

- ***Beaucoup* and *peu***

Beaucoup and *peu,* as quantifiers, enjoy more possibilities than *guère* and *trop.* In fact, they can appear also in the post-participial positions. Sentences (13)-(14) and (15)-(16) actually differ in their intonational contour, though the post-participial position is not necessarily focussed.

Beaucoup-QP:

(13) a. Kay a *beaucoup* fait pour sa famille.
Kay has a-lot done for her family
Kay did a lot for her family.
b. Kay a fait *beaucoup* pour sa famille.

(14) a. Il a *beaucoup* été fait pour les sauver, mais sans résultat.
It_{expl} has a lot been done to $them_{cl}$ save, but without result
A lot has been done to save them, but unsuccessfully.
b. Il a été *beaucoup* fait pour les sauver, mais sans résultat.
c. Il a été fait *beaucoup* pour les sauver, mais sans résultat.

Peu-QP:

(15) a. Lola a *peu* fait pour sa famille.
L. has little done for her family
Lola did little for her family.
b. Lola a fait *peu* pour sa famille.

(16) a. Il a *peu* été fait pour les sauver, et tout le monde a du remords.
It_{expl} has little done to $them_{cl}$ save, and all the world has $art_{partitive}$ remorse
Little was done to save them, and everybody feels remorse.
b. Il a été *peu* fait pour les sauver, et tout le monde a du remords.
c. Il a été fait *peu* pour les sauver, et tout le monde a du remords.

As intensity adverbs[4], *beaucoup* and *peu* can appear in position (ii) only in passive sentences, like *trop* and *guère*. Then, in (18b) and (20b) respectively,

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[4]. *Beaucoup* and *peu* have not only an intensive value, but also a (temporal) frequentative value. These two readings are apparently associated with two different positions in the hierarchy, since

beaucoup and *peu* modify the past participle *discuté* 'discussed' and *frappé* 'struck'. Since *beaucoup* is incompatible with adjectives[5], it can be claimed that the past

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beaucoup can occur twice in a sentence: *La pièce a beaucoup été beaucoup changée.* 'The play has been very changed many times'. The frequentative *beaucoup* apparently enjoys one position more than its intensive equivalent both in active sentences and in passive sentences. On the contrary, the frequentative *peu* does not differ in its distribution from *peu*-intensive-AdvP.

(ii) a. On a *beaucoup* discuté ce projet ces derniers jours.
PRON$_{impers}$ has a lot discussed this project these latest days.
We have discussed this project a lot of times the latest days.
b. On a discuté *beaucoup* ce projet ces derniers jours.
c. *On a discuté ce projet beaucoup ces derniers jours.

(iii) a. Ce projet a *beaucoup* été discuté ces derniers jours.
This project has a lot been discussed these latest days
This project has been discussed a lot of times the latest days.
b. Ce projet a été *beaucoup* discuté ces derniers jours.
c. ?Ce projet a été discuté *beaucoup* ces derniers jours.

(iv) a. On a *peu* discuté ce projet ces derniers jours.
PRON$_{impers}$ has little discussed this project these latest days
We have discussed this project few times the latest days.
b. *On a discuté *peu* ce projet ces derniers jours.
c. *On a discuté ce projet *peu* ces derniers jours.

(v) a. Il a *peu* été frappé par la violence à la télé.
He has little been struck by violence on TV
He has been struck few times by violence on TV
b. Il a été *peu* frappé par la violence à la télé.
c. *Il a été frappé *peu* par la violence à la télé.

5. In French, the modifier of APs (and AdvPs) is *très* 'very': *Il est très aimable* 'He is very lovable' vs **Il est beaucoup aimable.*

participle is a verbal head, here, and not an adjective. We will see the relevance of this point below.

Beaucoup-intensity AdvP:

(17) a. On a *beaucoup* discuté ce projet à la réunion.
PRON$_{impers}$ has a lot discussed this project at the meeting.
We discussed this project a lot at the meeting.
b. *On a discuté *beaucoup* ce projet à la réunion.
c. *On a discuté ce projet *beaucoup* à la réunion.

(18) a. Ce projet a *beaucoup* été discuté à la réunion.
This project has a lot been discussed at the meeting
This project was discussed a lot at the meeting
b. Ce projet a été *beaucoup* discuté à la réunion.
c. *Ce projet a été discuté *beaucoup* à la réunion.

Peu-intensity AdvP:

(19) a. On a *peu* discuté ce projet à la réunion.
PRON$_{impers}$ has little discussed this project at the meeting
We little discussed this project at the meeting.
b. *On a discuté *peu* ce projet à la réunion.
c. *On a discuté ce projet *peu* à la réunion.

(20) a. Il a *peu* été frappé par cette prédiction.
He has little been struck by this prediction
He was little struck by this prediction.
b. Il a été *peu* frappé par cette prédiction.
c. *Il a été frappé *peu* par cette prédiction.

♦ ***Rien***[6]

(21) a. Paul n'a *rien* fait.
Paul not_{cl} has nothing done
Paul didn't do anything.
b. * Paul n'a fait *rien.*

(22) a. Il n'a *rien* été fait.
It_{expl} not_{cl} has nothing been done
Nothing was done.
b. Il n'a été *rien* fait.
c. *Il n'a été fait *rien.*

The reader has easily noticed the lack of symmetry in the distribution of the examined items with respect to the passive auxiliary *été* 'been'. As Pollock ('89) argued, it is much costlier to postulate that AdvPs move in the sentence than to assume that only verbal heads move, creating the illusion of adverbial 'transportability' (see Travis ('88)). Giving up with the idea that adverbs move,

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[6]. The distribution of its semantic opposite *tout* 'everything' is slightly different, since it can never appear in the second position:

(vi) a. André a *tout* compris.
André has everything understood.
André understood everything.
b. *André a compris *tout.*

(vii) a. Il a *tout* été entrepris pour les sauver, mais sans résultat.
It_{expl} has everything been undertaken to $them_{cl}$ save, but without result
Everything was undertaken to save them, but unsuccessfully.
b. *Il a été *tout* entrepris pour les sauver, mais sans résultat.
c. *Il a été entrepris *tout* pour les sauver, mais sans résultat.

then, it may be argued that quantificational adverbs gain the position (ii) because the past participle is, in fact, an adjective, as traditional grammars claim. Thus, *été* 'been' would be a copula and the analysed adverbs would specify the participial adjective. This is actually the unmarked choice in French, since the adjective modifier *très* 'very' is currently employed in passive sentences:

(23) Ce livre a été très apprécié.
This book has been very appreciated
This book was very appreciated.

However, it is definitely impossible to claim this in the case of *beaucoup*, because *beaucoup* is not an adjective modifier, as said above. Then, it is less costly to assume a unique derivation for all the cases, namely that *été*, being an auxiliary, simply moves further leftward than the active past participle. The fact that *bien* shares this pattern as well (see ftn. 9) also supports this hypothesis.

4. Location within the hierarchy

In this section, I try to identify the position of *guère, trop, beaucoup, peu* and *rien* in the hierarchy, both as quantifiers and intensity adverbs. In the data given below, the reader will notice few "gaps" due to the fact that some couples of adverbs are impossible to test since they are semantically incompatible. Unfortunately, one of these gaps concerns the preverbal adverb *complètement* 'completely' [7], which is

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[7]. "*Completamente* can occupy two distinct positions; a preverbal and a post-object one, associated with two distinct interpretations, which likely depend on their different scope" (Cinque ('99), p. 172):

(viii) a. John completely forgot her instructions

often the key-adverb to establish the position of some items. We will see if and when we can make up for this difficulty. My hypothesis, to which the data seem to point, is that each couple adverb-quantifer occupies exactly the same position in the hierarchy.

By the way, we can observe that the behaviour of both *longtemps* and *longuement* is the same as that we would expect form *brièvement* 'briefly'.

♦ *Trop*

Trop-AdvP and *trop*-QP are both found after *presque* 'almost' and before *complètement* 'completely'. I chose to test these adverbs in passive sentences to make sure a given order was not established because the first adverb was the specifier of the second one. Since the participle *été* 'been' can be found between the two adverbs, we are certain that they do not form a constituent.

Presque 'almost' > *trop* 'too much'[8]

(24) a. Ma mère a *presque* été *trop* touchée par cette nouvelle.
My mother has almost been too much touched by this piece of news.
My mother has almost been touched too much by this piece of news.

---

b. John forgot her instructions completely

The first sentence can only mean that her instruction didn't occur at the appropriate moment, while the second sentence can also mean that John forgot every part of her instruction.

[8]. It could be argued that *presque* is found before *trop* through a kind of modification by transitivity —that is, *presque* modify the VP and, by transitivity, *trop*. In fact, in Italian, *E' quasi stata troppo commossa da questa notizia* can mean both 'She risked being too touched by this piece of news' and 'She was too touched by this piece of news'. However, in the appendix the reader can find evidence that *trop* actually follows all the adverbs higher than *presque*.

b. *Ma mère a *trop* été *presque* touchée par cette nouvelle.

Trop 'too much' > *complètement* 'completely':

(25) a. Les employés ont *trop* été *complètement* exploités.
The employees have too much been completely exploited
The employees have been completely exploited too much
b. *Les employés ont *complètement* été *trop* exploités.

Presque 'almost' > *trop* 'too much'

(26) a. Il a *presque* été *trop* fait pour moi, et rien pour toi!
It_{expl} has almost been too much done for me, and nothing for you
Too much was almost done for me, and nothing for you!
b. *Il a *trop* été *presque* fait pour moi, et rien pour toi!

Trop 'too much' > *complètement* 'completely'

(27) a. Il a *trop* été *complètement* refait, ça semble artificiel.
It_{expl} has too much been completely redone, it looks artificial
Too much has been completely redone, it looks artificial
b. *Il a *complètement* été *trop* refait, ça semble artificiel.

♦ ***Guère***

Guère is found after *presque* 'almost' and before *trop* 'too much', both as an adverb (28-31) and as a quantifier (32-35). Actually, *presque* can occur with *guère*-AdvP only in the active sentence (28), whereas in the passive sentence (29) both the orders seem to be impossible. It could be claimed that (28) is possible only because *presque* is the specifier of *guère*. However, in the Appendix we can see that *guère* actually follows all the adverbs before *presque*. Moreover, *guère*-QP clearly follows *presque* both in the active and in the passive sentence. Then, I would think it is the semantic awkwardness of (29) that causes its rejection. As to the objection that *guère* forms a constituent with *trop*, it is refuted by the fact that in a passive sentence the participle *été* 'been' separates the two adverbs.

Presque 'almost' > *guère* 'not much'

(28) a. ?Les manifestants n'ont *presque guère* gâché l'exposition.
The demonstrators not_{cl} have almost not very much spoiled the exhibition
The demonstrators haven't almost spoiled the exhibition very much.
b. *Les manifestants n'ont *guère presque* gâché l'exposition.

(29) a. *L'exposition n'a *presque* été *guère* gâchée par les manifestants.
The exhibition not_{cl} has not very much been almost spoiled by the demonstrators
b. *L'exposition n'a *guère* été *presque* gâchée par les manifestants

Guère 'not much' > *trop* 'too much'

(30) a. Les révolutionnaires n'ont *guère trop* changé la morale publique.
The revolutionaries not_{cl} have not-much too-much changed the morals public
Revolutionaries haven't much changed public morals too much.
b. *Les révolutionnaires n'ont *trop guère* changé la morale publique.

(31) a. La morale publique n'a *guère* été *trop* changée par les révolutionnaires.
The morals public not_{cl} has not-much been too-much changed by the revolutionaries.
Public morals haven't been much changed too much by revolutionaries.
b. *La morale publique n'a *trop* été *guère* changée par les révolutionnaires.

Presque 'almost' > *guère* 'not much'

(32) a. Les manifestants n'ont *presque guère* fait contre la mairie, le soir, mais le lendemain ils ont tout détruit.

The demonstrators not_{cl} not-much almost done against the town hall, the evening, but the following day they have everything destroyed.
The demonstrators almost didn't much against the town hall in the evening, but the following day they destroyed everything.

b. *Les manifestants n'ont *guère presque* fait contre la mairie, le soir, mais le lendemain ils ont tout détruit.

(33) a. Il n'a *presque* été *guère* gâché par les manifestants, le soir, mais le lendemain la mairie a été mise en sac.
It_{expl} not_{cl} almost been not-much spoiled by the demonstrators, the evening, but the following day the city hall has been put in sack
Not much was almost spoiled by the demonstrators, in the evening, but the following day the city hall was sacked.

b. *Il n'a *guère* été *presque* gâché par les manifestants, le soir, mais le lendemain la mairie a été mise en sac.

Guère 'not much' > *trop* 'too much'

(34) a. Les révolutionnaires n'ont *guère trop* changé dans le monde.
The revolutionaries not_{cl} have not-much too-much changed in the world
Revolutionaries haven't much changed too much in the world.

b. *Les révolutionnaires n'ont *trop guère* changé dans le monde.

(35) a. Il n'a *guère* été *trop* repeint dans l'église, presque tous les originaux sont encore là.
It_{expl} not_{cl} has not-much been too-much repainted in the church, almost all the originals are still there
Not much was repainted too much in the church almost all, the originals are still there.

b. *Il n'a *trop* été *guère* repeint dans l'église, presque tous les originaux sont encore là.

♦ ***Beaucoup***

It is perfectly clear that *beaucoup*-AdvP is between *tout* 'everything' and *bien* 'well'. *Bien* can be employed as an IP-adverb, meaning *in fact, definitely* (*Le prof a bien analysé le théâtre* 'In fact, the teacher has analysed theater'), which obviously produces ambiguity. Thus, I chose to use its modified form *très bien* 'very well' [9].

Tout 'everything' > *beaucoup* 'a lot'[10]

(36) a. Pierre a *tout beaucoup* aimé.
Pierre has everything a-lot loved
Pierre liked everything a lot.
b. *Pierre a *beaucoup tout* aimé.

---

[9]. *Très* can be adjoined to *bien* without making its distribution wider nor narrower. The pattern is the same as that *of beaucoup/peu/trop/guère* intensive AdvPs and *rien.*

(ix) a. Liliane a *(très) bien* compris la question.
Liliane has very well understood the question
Liliane understood the question (very) well.
b. *Liliane a compris *(très) bien* la question.
c. *Liliane a compris la question *(très) bien.*

(x) a. On a *(très) bien* été réchauffés par le feu du camping.
$\text{PRON}_{\text{impers}}$ has well been warmed by the camp-fire.
We have been warmed well by the camp-fire.
b. On a été *(très) bien* réchauffés par le feu du camping.
c. *On a été réchauffés *(très) bien* par le feu du camping.

[10]. Compare the passive sentence: *Il a tout été beaucoup apprécié* 'Everything was much appreciated' vs **Il a beaucoup été tout apprécié.*

Beaucoup 'a lot' > *bien* 'well'.

(37) a. ?Le prof a *beaucoup très bien* analysé la pièce de théâtre[11].
The teacher has a-lot very well analysed the theater play.
The teacher analysed the play a lot and very well.
b. * Le prof a *très bien beaucoup* analysé le théâtre.

As to *beaucoup*-QP, there are two difficulties in establishing its position: first, it is impossible to test its relative order with *tout*, because they would compete for the position of subject or direct object in the same sentence; second, *beaucoup*-QP cannot appear with *complètement* 'completely'[12].

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[11]. French speakers show some resistance to *beaucoup* and (*très*) *bien* appearing in the same sentence without being coordinated. The form *beaucoup et* (*très*) *bien* is much preferred. However, the passive sentence is judged as perfect: *La pièce a beaucoup été très bien analysée par notre professeur* 'The play was analysed a lot very well by our teacher vs **La pièce a très bien été beaucoup analysée par notre professeur.*

[12]. If *beaucoup* is the 'dislocated' quantifer of a DP, it follows *complètement*. By *dislocation* I do not mean Left Dislocation, but a typical French configuration which Obenauer ('94) defines *Quantification à Distance* (Quantification from the distance, QAD). QAD allows quantifiers to precede the past participle while the quantified DPs follow it:

(xi) J'ai *beaucoup* lu *de livres*
I have a lot read of books
I read a lot of books

Obenauer ('94) supposes, following Kayne ('81), that from its base structure [Q [NP]], the quantifier is allowed to move towards its scope position, which is identified with [Spec, VP]. Moving to [Spec, VP], the quantifier gains a frequentative value: "I often read books".

(xii) J'ai beaucoup$_k$ lu [t$_k$ de livres].

(38) a. *Fanny a *complètement beaucoup* caché.
Fanny has completely a lot hidden
b. *Fanny a *beaucoup complètement* caché.

However, *beaucoup*-QP follows *presque* 'almost' and precedes *bien*, which delimits the range of its possible locations.

Presque 'almost' > *beaucoup* 'a lot'

(39) a. Il avait *presque* été *beaucoup* fait, mais on nous a communiqué d'arrêter.
It_{expl} had almost been a-lot done, but $PRON_{impers}$ us_{cl} has told to stop
A lot had almost been done, but we were told to stop.
b. *Il avait *beaucoup* été *presque* fait, mais on nous a communiqué d'arrêter.

Although the hypothesis of *beaucoup*'s location must be updated, the quantifier's frequency reading is certainly worth analysing further. In our case, supposing *beaucoup* is 'dislocated' (i.e. moved) to its scope position, then it should move to the position in the hierarchy in which it is checked by its corresponding aspectual head — in other words, in the same position as *beaucoup* bare quantifier.

(xiii) a. Fanny a *complètement beaucoup* caché *de choses*.
Fanny has completely a lot hidden of things
Fanny has completely hidden a lot of things
b. *Fanny a *beaucoup complètement* caché *de choses*.

However, this tempting hypothesis needs verification. Alternatively, one should check if this 'dislocated' position, having a frequentative meaning, coincides with the location of frequentative quantificational adverbs (i.e. *beaucoup* meaning *beaucoup de fois* 'a lot of times').

Beaucoup 'a lot' > *bien* 'well'

(40) a. ?Lucie a *beaucoup très bien* produit à l'usine.
L. has a-lot very well produced at the factory.
L. has produced a lot at the factory very well.
b. *Lucie a *très bien beaucoup* produit à l'usine.

In conclusion, it seems to me that the data point to the direction that *beaucoup*-QP is in the same position as *beaucoup*-AdvP, and that *beaucoup*-QP's location after *tout* simply cannot be seen.

- ***Peu***

The behaviour of *peu* is identical to that of *beaucoup*: as an adverb, it follows *tout* 'everything' and it precedes *bien* 'well'.

Tout 'everything' > *peu* 'little'

(41) a. Jacques a *tout peu* révisé.
J. has everything little revised.
J. revised everything little.
b. *Jacques a *peu tout* révisé.

Peu 'little' > *bien* 'well'

(42) a. ?Il a *peu très bien* marché.
He has little very well walked.
He has little walked very well.
b. *Il a *très bien peu* marché.

Peu-QP follows *presque* 'almost' and precedes *bien* 'well'. *Presque* 'almost' together with *peu* is felt as somewhat unnatural by native speakers. Consequently, (43) has been given an ironic sense.

Presque 'almost' > *peu* 'little'[13]

(43) a. Il a *presque* été *peu* fait pour le Kosovo. Quelle honte!
It$_{expl}$ has almost been little done for Kosovo. What a shame
Little has almost been done for Kosovo. What a shame!
b. *Il a *peu* été *presque* fait pour le Kosovo. Quelle honte!

Bien 'well' > *peu* 'little'

(44) a. Il a *peu très bien* mangé.
He has little very well eaten
He has eaten little very well
b. *Il a *très bien peu* mangé.

Peu-QP cannot appear with *complètement*[14]. The reading where *peu* modifies *complètement* has obviously been excluded.

(45) a. *Fanny a *peu complètement* changé dans le théâtre moderne
Fanny has completely little changed in the theatre modern
b. *Fanny a *complètement peu* changé dans le théâtre moderne.

- ***Rien***

Rien seems to be located between *presque* and *complètement*[15].

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[13]. Compare: *Yves a presque peu fait aujourd'hui...quel garçon paresseux*! 'Yves has almost done little today...what a lazy boy!' *vs* **Yves a peu presque fait aujourd'hui...quel garçon paresseux!*

[14]. However, just like its antonym *beaucoup*, *peu* can actually follow *complètement* if it is a 'dislocated' quantifier: Fanny a *complètement peu* caché *de choses* '*Fanny has completely hidden few things vs* *Fanny a *peu complètement* caché *de choses*.

Presque 'almost' > *rien* 'nothing'[16]

(46) a. Il n'a *presque* été *rien* changé.
It$_{expl}$ not $_{cl}$ has almost been nothing changed
Nothing has almost been changed.

b. *Il n'a *rien* été *presque* changé.

Rien 'nothing' > *complètement* 'completely'

(47) a. Daniel n'a *rien complètement* changé.
Daniel not$_{cl}$ has nothing completely changed.
Daniel hasn't completely changed anything.

b. *Daniel n'a *complètement rien* changé.

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[15]. It could be argued that *rien* cannot be found after *complètement* because of semantic reasons. In fact, though *complètement* normally precedes *tout*, the antonym of *rien*, it can also follow it with some lexical choices (see Cinque ('99), p.10):

(xiv) a. Tu as complètement tout refait?
Tu as tout complètement refait?

In (a) *complètement* modifies both the verb and the object (the natural answer could be *Non! Je n'ai fait que la cuisine*). In (b) the adverb modifies just the verb (the answer could be: *Non! Je n'ai fait que la peinture*). Being *rien* a negative quantifier, it would be impossible for it to be under the scope of a 'completion' adverb. Then, it would exploit only the second option, where *complètement* is focussed on the verb. I leave the question open.

[16]. Compare: Jean n'a presque rien changé dans son milieu de travail. 'Jean has changed almost nothing in his place of work' vs * Jean n'a rien presque changé dans son milieu de travail.

5. Conclusion

We have seen quite clear-cut data for the location of the examined quantifiers in the general hierarchy. As to their corresponding aspectual heads, one of them had already been identified in Cinque (1999) — namely, *guère* (Neg4). However, no reference is made there to the other four. Here, I would like to label the aspectual projections corresponding to *beaucoup, peu, trop* and *rien,* at least in a tentative way. Of course, it will be necessary to check if aspectual heads corresponding to these adverbs exist in some languages.

I would like to suggest $\text{ASP}_{\text{excess}}$ for *trop*, $\text{ASP}_{\text{degree}}$ for *beaucoup / peu* and $\text{ASP}_{\text{absence}}$ for *rien.* Since *beaucoup* and *peu* seem to occupy the same specifier position, I would like to propose that their aspectual heads have two features, a positive one, $[+\text{ASP}_{\text{degree}}]$, associated with *beaucoup* and a negative one, $[-\text{ASP}_{\text{degree}}]$, associated with *peu.*

[*frankly* $\text{MOOD}_{\text{speech-act}}$ [*fortunately* $\text{MOOD}_{\text{evaluative}}$ [*allegedly* $\text{MOOD}_{\text{evidential}}$ [*probably* $\text{MOOD}_{\text{epistemic}}$ [*once* T(Past) [*then* T(Future) [*perhaps* $\text{MOOD}_{\text{irrealis}}$ [*necessarily* $\text{MOOD}_{\text{necessity}}$ [*possibly* $\text{MOD}_{\text{possibility}}$ [*usually* $\text{ASP}_{\text{habitual}}$ [*again* $\text{ASP}_{\text{repetitive(I)}}$ [*often* $\text{ASP}_{\text{frequentative(I)}}$ [*intentionally* $\text{MOD}_{\text{volitional}}$ [*quickly* $\text{ASP}_{\text{celerative(I)}}$ [*already* T(Anterior) [*no longer* $\text{ASP}_{\text{terminative}}$ [*still* $\text{ASP}_{\text{continuative}}$ [*always* $\text{ASP}_{\text{perfect}}$ [*just* $\text{ASP}_{\text{retrospective}}$ [*soon* $\text{ASP}_{\text{proximative}}$ [*briefly* $\text{ASP}_{\text{durative}}$ [*characteristically* (?) $\text{ASP}_{\text{generic/progressive}}$ [*almost* $\text{ASP}_{\text{prospective}}$ [***guère*** **Neg4** [***trop*** $\textbf{ASP}_{\textbf{excess}}$ [***rien*** $\textbf{ASP}_{\textbf{NegPlCompletive}}$] [*completely* $\text{ASP}_{\text{SgCompletive(I)}}$ [***tout*** $\textbf{ASP}_{\textbf{PlCompletive}}$ [***beaucoup / peu*** $\textbf{ASP}_{\textbf{degree}}$ [*well* Voice [*fast/early* $\text{ASP}_{\text{celerative(II)}}$ [*completely* $\text{ASP}_{\text{SgCompletive(II)}}$ [*again* $\text{ASP}_{\text{repetitive (II)}}$ [*often* $\text{ASP}_{\text{frequentative (II)}}$]]]]]]]]]]]]]]]]

6. Appendix: there are no contradictions

In order to find their locations, all the examined items were tested to determine their position with respect to every lower adverbs, starting from *toujours* (always). The data are consistent with the key sentences provided above.

- *Trop-AdvP*

(49) a. Les films ont *toujours trop* impressionné David.
b. *Les films ont *trop toujours* impressionné David.

(50) a. On a *récemment trop* contesté le député
b. *On a *trop récemment* contesté le député.

(51) a. Ses louanges t'ont *bientôt trop* flatté.
b. *Ses louanges t'ont *trop bientôt* flatté.

(52) a. Les médecins ont *longtemps trop* ignoré la dépression.
b. *Les médecins ont *trop longtemps* ignoré la dépression.

(53) a. Il a *brièvement trop* utilisé son ordinateur, mais après tout a été arrangé.
b. *Il a *trop brièvement* utilisé son ordinateur, mais après tout a été arrangé.

(54) a. On a *trop tout* analysé.
b. *On a *tout trop* analysé.

(55) a. On a *trop très bien* dansé et on est crevés.
b. *On a *très bien trop* sauté et on est crevés.

(56) a. On a *de nouveau trop* poussé à l'extrême le réacteur.
b. *On a *trop de nouveau* poussé à l'extrême le réacteur.

(57) a. Les gardiens du zoo ont *vite trop* nourri les lions.
b. *Les gardiens du zoo ont *trop vite* nourri les lions.

(58) a. Tu l'as *rarement trop* embarrassé par tes remarques
b. *Tu l'as *trop rarement* embarrassé par tes remarques

- *Trop*-QP:

(59) a. David a *toujours trop* mangé.
b. *David a *trop toujours* mangé.

(60) a. On a *récemment trop* fait pour influencer sa décision.
b. *On a *trop récemment* fait pour influencer sa décision, il nous en veut beaucoup.

(61) a. ?Tu as *bientôt trop* acheté, il fallait que tu attendes d'avoir l'argent.
b. * Tu as *trop bientôt* acheté, il fallait que tu attendes d'avoir l'argent.

(62) a. Les médecins ont *longtemps trop* ignoré pour pouvoir soigner réellement.
b. *Les médecins ont *trop longtemps* ignoré pour pouvoir soigner réellement.

(63) a. ??Yvonne a *trop très bien* produit, je l'envie, franchement.
b. *Yvonne a *très bien trop* produit, je l'envie, franchement.

(64) a. *Sa famille n'a *guère toujours* influencé Claude.
b. Sa famille n'a *toujours guère* influencé Claude

(65) a. *Les spectateurs n'ont *guère récemment* écouté son discours.
b. Les spectateurs n'ont *récemment guère* écouté son discours.

(66) a. *Les gens âgés du village n'ont *guère bientôt* apprécié la musique techno
b. Les gens âgés du village n'ont *bientôt guère* apprécié la musique techno

(67) a. *Paul n'a *guère brièvement* utilisé son ordinateur.
b. Paul n'a *brièvement # guère* utilisé son ordinateur.

(68) a. *Je n'ai *guère longtemps* soigné le jardin.
b. Je n'ai *longtemps guère* soigné le jardin.

(69) a. Tom n'a *longuement guère* examiné le problème.
b. * Tom n'a *guère longuement* examiné le problème.

(70) a. *L'incendie n'a *guère complètement* touché la bibliothèque
b. *L'incendie n'a *complètement guère* touché la bibliothèque

(71) a. Les révolutionnaires n'ont *guère trop* changé la morale publique.
b. *Les révolutionnaires n'ont *trop guère* changé la morale publique.

(72) a. Tu n'as *guère tout* envisagé.
b. *Tu n'as *tout guère* envisagé.

(73) a. Gilles n'a *guère beaucoup* estimé sa mère.
b. *Gilles n'a *beaucoup guère* estimé sa mère.

(74) a. Les citoyens n'ont *guère bien* compris son emprisonnement
b. *Les citoyens n'ont *bien guère* compris son emprisonnement

(75) a. ?David n'a *guère vite* affaibli le géant
b. David n'a *vite guère* affaibli le géant.

(76) a. *Ils n'ont *guère de nouveau* amélioré le jus de fruit.
b. Ils n'ont *de nouveau guère* amélioré le jus de fruit.

(77) a. Cette thérapie n'a *rarement guère* soigné un claustrophobe.
b. Cette thérapie n'a *guère rarement* soigné un claustrophobe.

(78) a. *Sa famille n'a *guère toujours* fait pour Claude
b. Sa famille n'a *toujours guère* fait pour Claude

(79) a. *Les spectateurs n'ont *guère récemment* vu, les lumières ne marchaient pas.
b. Les spectateurs n'ont *récemment guère* vu, les lumières ne marchaient pas.

(80) a. *Les gens âgés du village n'ont *guère bientôt* mangé, ils ont perdu l'appétit.
b. Les gens âgés du village n'ont *bientôt guère* mangé, ils ont perdu l'appétit.

(81) a. *Je n'ai *guère longtemps* acheté dans ce magasin, il était déguelasse, vraiement.
b. Je n'ai *longtemps guère* acheté dans ce magasin, il était déguelasse, vraiement.

(82) a. *Tom n'a *longuement guère* écouté, il en avait marre de la radio.
b. *Tom n'a *guère longuement* écouté, il en avait marre de la radio.

(83) a. Il n'a *longuement* été *guère* fait pour l'hôpital, il est presque ruiné.
b. *Il n'a *guère* été *longuement* fait pour l'hôpital, il est presque ruiné.

(84) a. *L'incendie n'a *guère complètement* détruit, il en reste assez de choses.
b. *L'incendie n'a *complètement guère* détruit, il en reste assez de choses

(85) a. Les citoyens n'ont *guère très bien* fait pour leur ville.
b. *Les citoyens n'ont *très bien guère* fait pour leur ville.

◆ *Beaucoup*-AdvP

(86) a. Marguerite Duras a *toujours beaucoup* lu.
b. *Marguerite Duras a *beaucoup toujours* lu.

(87) a. On a *récemment beaucoup* voyagé en Angleterre.
b. *On a *beaucoup récemment* voyagé en Angleterre.

(88) a. Yves a *bientôt beaucoup* aimé sa fille adoptive.
b. *Yves a *beaucoup bientôt* aimé sa fille adoptive.

(89) a. Jeanne a *longtemps beaucoup* ignoré son fils.
b. *Jeanne a *beaucoup longtemps* ignoré son fils.

(90) a. Pascal a *longuement beaucoup* ignoré sa sœur.
b. *Pascal a *beaucoup longuement* ignoré sa sœur.

(91) a. Nous avons *brièvement beaucoup* souhaité la victoire de ce candidat.
b. *Nous avons *beaucoup brièvement* souhaité la victoire de ce candidat.

(92) a. Nicolas a *beaucoup trop* surchargé ses collègues.[17]

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[17]. *Beaucoup* (a lot) seems to follow *trop* (too much). However, it is difficult to interpret the data, because *trop* and *beaucoup* are apparently incompatible from a semantic point of view: They can

b. *Nicolas a *trop beaucoup* surchargé ses collègues.

(93) a. Gilles a *de nouveau beaucoup* travaillé.
b. *Gilles a *beaucoup de nouveau* travaillé.

(94) a. Jean a *rarement beaucoup* apprécié le travail des autres.
b. *Jean a *beaucoup rarement* apprécié le travail des autres.

(95) a. Vous avez *vite beaucoup* couru dehors.
b. *Vous avez *beaucoup vite* couru dehors.

♦ *Peu*-AdvP

(96) a. Les lecteurs moyens ont *toujours peu* apprécié son livre.
b. *Les lecteurs moyens ont *peu toujours* apprécié son livre.

(97) a. Gilles m'a *récemment peu* écouté.
b. *Gilles m'a *peu récemment* écouté.

(98) a. Ses camarades ont *bientôt peu* estimé Céline.
b. *Ses camarades ont *peu bientôt* estimé Céline.

(99) a. Les soldes ont *longtemps peu* attiré les gens.
b. *Les soldes ont *peu longtemps* attiré les gens.

---

appear together in an active sentence because *beaucoup* is *trop*'s specifier: "far too much". Instead, in passive sentences, the higher *beaucoup* and *trop* have a frequency reading. Consequently, we are obliged to establish *beaucoup*'s position with respect to *trop* by transitivity.

(100) a. On a *longuement peu* laissé les animaux du zoo en liberté.
b. *On a *peu longuement* laissé les animaux du zoo en liberté.

(101) a. Les armes à feu ont *brièvement peu* effrayé Geneviève.
b. *Les armes à feu ont *peu brièvement* effrayé Geneviève.

(102) a. Les critiques musicaux ont *presque peu* considéré Jimi Hendrix
b. *Les critiques musicaux ont *peu presque* considéré Jimi Hendrix

(103) a. *On a *peu trop* exercé sa conscience morale.
b. *On a *trop peu* exercé sa conscience morale.

(104) a. On a *de nouveau peu* reconnu Agnès comme un auteur important.
b. *On a *peu de nouveau* reconnu Agnès comme un auteur cela.

(105) a. Ton patron t'a *vite peu* chargé de travail.
b. *Ton patron t'a *peu vite* chargé de travail.

(106) a. Le professeur a *rarement peu* blâmé Guitry.
b. *Le professeur a *peu rarement* blâmé Guitry.

♦ *Rien*

(107) a. Valentine n'a *rien très bien* fait.
b. *Valentine n'a *très bien rien* fait.

(108) a. Il n'a *rien* été *très bien* fait.
b. *Il n'a *très bien* été *rien* fait.

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