

The morphological dimension of polarity licensing*

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Abstract

Polarity items must, by definition, lie inside the scope of their licensor; items like any N, in addition, appear to require a c-commanding and overt licensor. It is argued that the relevant restriction refers to precedence, not c-command, and that it is morphological, not syntactic. This implies a morphological dimension of dependence, in addition to the semantic, syntactic and pragmatic ones. The analysis relies on the separation between syntax and a post-syntactic morphological component: the exponents of the relevant polarity items require an [operator] feature which never appears in the corresponding feature bundle at the output of syntax. This mismatch is resolved by copying the feature from the licensing operator, provided it is present at morphological structure (overt) and linearly preceding.

Introduction

This paper brings together some observations on the syntax of polarity items and argues that a unified explanation is possible if the problem is approached from a morphological viewpoint, under a view of morphology as a distinct component that interprets and manipulates the output of syntax. The argument is articulated in three parts. The first one introduces the main empirical concern of this paper, namely, data suggesting that (some) polarity items require spelt-out licensors, over and above the familiar semantic and syntactic licensing conditions. This appears to invoke some sort of "surface" syntactic structure, where abstract elements are ignored.

In the second part I propose to identify this "surface structure" with a morphological, not syntactic, representation: the linearized string of symbols which is translated into phonological instructions by a post-syntactic morphological module, along the lines of Distributed Morphology. As reconstruction in VP-ellipsis will show, the constraints on polarity licensing can be suspended precisely where there is no

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morphological interpretation.

Finally, the third part attempts to derive the observed requirement from a morphological analysis. I hypothesize that those polarity items that require a preceding overt licenser are morphologically defective: their feature bundle lacks an operator feature, but this feature is necessary for their lexicalization. In order to be spelt out, any and similar elements must be supplemented with an operator feature, which is what all licensers have in common. If we allow for feature copying constrained by linear precedence, we can interpret the need for an overt preceding licenser as a strategy to ensure Vocabulary insertion for defective elements.

1. A "surface" constraint on Polarity Items.

1.1 Polarity items (PIs) are expressions that depend on the polarity of their linguistic environment, understood as the direction in which entailments are warranted if the extensions of predicates varies in size: from subset to superset, or viceversa. For example, the extension of the predicate have many friends in (1a) is a superset of that of the predicate have many good friends in (1b):

- (1) a Sam has many friends.
b Sam has many good friends.

Since (1b) entails (1a), but not viceversa, a pair like (1) allows inferences from smaller to larger sets, in an upward entailing fashion, and the sentences in (1) are said to have positive polarity. Their negated counterparts illustrate the opposite pattern:

- (2) a Sam does not have many friends.
b Sam does not have many good friends.

Here (2a) entails (2b) but not viceversa, in a downward entailing fashion, and the polarity is negative. PIs are sensitive to the polarity of their linguistic context; for example, the determiner any requires negative polarity environments, while emphatic do requires positive ones:

- (3) a * Sam has any friend.
b Sam does not have any friend.

- (4) a I do love sweets.
b * I do not like sweets.

Many quantificational determiners and adverbials affect the polarity of a sentence (cf. Ladusaw 1980, Hoeksema 1986), and downward-entailing operators, most clearly exemplified by negation, are the most common licensers for PIs. However, a whole tradition of studies has brought to light a number of additional properties involved in polarity licensing, mainly of semantic nature, but also syntactic and pragmatic (Ladusaw 1980, Linebarger 1987, Progovac 1994, Israel 1996, Giannakidou 1998, among others). Leaving aside the semantic complexities which are involved in some instances of polarity licensing, let us keep to the simplest case: licensing of any N in the scope of negation. Consider the ill-formed sentences in (5):

- (5) a * Any child hasn't been born in this clinic for two years.
b * I gave any present to no relatives.
c * I will force anybody to marry no one.

At first sight these sentences may appear to be elementary violations of the condition requiring that the PI must be in the scope of negation. In fact, in (5a-c) negation has demonstrably scope over the whole sentence, including the subject position in (5a). In this respect (5a) contrasts with (6):

- (6) A child hasn't been born in this clinic for two years.

This and similar sentences, with an appropriate verb, show that in English the preverbal subject position can lie in the scope of negation expressed by the inflectional marker not (the not / n't distinction is irrelevant here). The same holds for (5b): (7a) has a legitimate reading which is synonymous with (6b), where sentential negation is realized by an inflectional marker rather than by a quantifier.¹

- (7) a I gave a present to no relatives.
b I didn't give any present to any relatives.

Among the arguments for interpreting sentential negation on Inflection even when it is expressed on a lower argument (cf. Acquaviva 1997a), I will only recall that (8a) cannot entail (8b), thus contrasting with (9).

- (8) a John ate nothing. $-/\rightarrow$
b John ate.

- (9) a John ate cabbage. \rightarrow
b John ate.

Likewise, John was killed by no one cannot entail John was killed (cf. John was killed by Phil). As additional evidence, note that a universal quantifier in the position of to no relatives in (1b) can distribute over a direct object on its left:

- (10) I gave a different present to each relative.

Although there might be speakers who find such an interpretation for (10) unnatural if every replaces each, the facts are clear enough for negative quantifiers, although the point generalizes to other quantifiers: a quantifier in indirect object position can scope over the preceding direct object.² The unacceptability of (5b), therefore, must have some other cause.

As for (5c), this is the modified version of (11), an unsurpassed example of scope ambiguity due to Klima (1964):

- (11) I will force you to marry no one.

The two available readings, "I will not force you to marry anyone" and "I will force you not to marry anyone," are represented as follows if we assume that the position of an abstract NegP marks the position where the negative operator is interpreted (Pollock 1989, Zanuttini 1991, 1997 and much subsequent literature):

- (12) a I will [_{NegP} \emptyset force you to marry no one]
b I will force you [_{NegP} \emptyset to marry no one]

In the second reading (12b) it is unsurprising that you cannot legitimately be replaced by a PI, as the position is outside the scope of negation. But then for the same reason we expect (1c) to be acceptable in the interpretation described in (12a), contrary to fact.³

All these examples show that PIs like any N are not admitted in some positions even though the licensing operator (negation in this case) has scope over those positions at LF. The lack of licensing in subject position, as in (5a), is often taken to show that these PIs can only be licensed under direct, as opposed to inverse, scope (cf. Baker

1970)⁴; that is, only within the c-command domain of the relevant scope-taking operator (an important class of exceptions is discussed below in 1.3). However, examples like (7) and (12) show that licensing may be prevented even in direct scope configurations, where the licensing head c-commands the PI. Something else must be at play.

1.2 Apparently, the additional requirement in these cases is that the licenser be overt. The licensing operator itself, however, is not necessarily a spelt-out morpheme. The operator that licenses PIs in yes-no questions like (13), for example, is presumably located in C° or its specifier:

(13) Did you see anything?

Yet, the only visible realization English morphosyntax can provide for C° in yes-no questions is a raised auxiliary, which certainly is not a PI-licenser by itself. What must be overt, therefore, would appear to be the syntactic position responsible for licensing, not the operator itself.⁵

The behaviour of adversative predicates like the verbs doubt or deny requires an important qualification. Laka (1990) and Progovac (1994) argue these verbs do not license PIs by themselves, but rather by virtue of a specially marked complementizer which they select, witness the fact that PIs are not licensed unless they are embedded in a CP:

(14) a I doubt that he will do anything.
b * I doubt anything.

However, if the licensing position is that occupied by that in (14a), a problem arises in connection with null complementizers, as in (15):

(15) I doubt he will do anything.

The acceptability of (15) is unexpected, if we assume that the position hosting the licensing features for anything must be spelt out. What is spelt out here is not the syntactic position C°, but rather the matrix verb doubt, which (by its lexical properties) provides the ultimate semantic source of licensing in that it selects an appropriate C°. Sentences like (15) suggest that the overtness requirement refers to the linguistic expression whose interpretation is crucial for the licensing of PIs; that is, to the semantic trigger. In (15) and in the inverse-scope examples in (5b-c) above, there are good

reasons to dissociate the syntactic position of the licensing operator from that of the semantic trigger (doubt, no relatives and no one respectively). In (13) the semantic trigger is a yes-no interrogative operator, which does not correspond to any word or morpheme in English; in this case, the trigger receives a lexical interpretation by means of a raised auxiliary. Consider in this connection an example of what Giannakidou (1998) calls "indirect licensing", triggered by a negative implicature:

(16) You're obviously mistaking me for someone who gives a damn.

In an example like (16) there are no independent reasons for positing a specially marked operator in the syntax; it is the semantic properties of mistake that make licensing possible in the relative clause restricting someone.⁶

To sum up, there is evidence that some PIs require their licenser to be overt. If the semantic trigger performs its licensing by means of an operator filling a distinct syntactic position (like C° or Neg°), the overtness requirement applies to the trigger itself.

1.3 As we have seen, the PIs in (5) are all inside the scope of the licensing negation; in (5b-c) the licensing operator c-commands the PIs but is null; therefore, only in (5a) is licensing prevented by lack of c-command alone. That polarity licensing in sentences like (5a) fail because of lack of c-command is hardly a new observation. Still, the role of c-command, as opposed to semantic scope, deserves some clarifications.

First of all, a class of constructions is known to permit polarity licensing under inverse scope even in English (Linebarger 1980, de Swart 1998):

- (17) a That he had stolen anything was never proved.
 b A doctor who knew anything about acupuncture was not available.
 c Tickets to any of the afternoon concerts were not available.

This class of exceptions features a PI embedded in a complex subject, which c-commands negation. A number of conditions constrain this exceptional structure, however. The main predicate must be an individual-level, not a stage-level one (that is, it must denote an inherent property of its argument as opposed to a temporary one):

- (18) a Tickets to any of the afternoon concerts were not available.
 b * Tickets to any of the afternoon concerts were not green.

Besides, inverse scope in these cases is most natural with predicates of existence or appearance, semantically "light" in so far as they amount to little more than a predication of existence. De Swart (1998) convincingly argues that the head of the complex subject in examples like (17)-(18) is not interpreted generically; otherwise, we could perhaps attribute the licensing of PIs to an abstract generic operator, which, as "quasi-universal quantifier" (de Swart 1998:183), would license PIs in its left argument. Noting the weakness of earlier attempts to explain these exceptions in configurational terms, de Swart proposes a pragmatic analysis: preverbal subjects can be interpreted in the scope of a lower negation if they are pragmatically contrasted with a set of alternatives, with which the sentence gives rise to a positive implicature. For example, the indefinite subject a doctor in the sentence a doctor was not available can pragmatically supply a set of alternative individuals *x* (non-doctors) with which the sentence conveys the implicature that *x* was available; thus, the sentence may suggest that a nurse was available. Complex subjects like those in (17) and (18a) can provide such contrasting alternatives; but a simple PI cannot, because *anyone did not come cannot suggest that someone else came. In de Swart's view, then, PIs in inverse scope structures are only admitted inside complex NPs for pragmatic reasons.

Such a pragmatic constraint on inverse scope seems rather plausible. However, this cannot be the whole explanation: the phrase anything else obviously suggests a contrast, but inverse scope is not licit even though a positive implicature would be extremely natural:

(19) * Anything else was not available.

Similarly, (20) can induce a contrasting positive implicature just as readily as (18) (for example, that tickets to some other concerts were available or that some non-doctor was available), but the PI is again illicit:

(20) a * Any tickets to the afternoon concerts were not available.
b * Any DOCTOR was not available.

But (19) and (20) differ from (17) in one crucial respect: in (20), the PI is not preceded by any material. This again suggests that a preceding overt trigger is required for PI licensing, apart from pragmatic conditions. But what can this licenser be in (17), given that negation is lower than the PI? The answer is provided by de Swart herself, who

conclusively shows that in inverse scope structures "the indefinite NP [i.e. the complex subject where the PI is embedded—PA] is interpreted as an existential quantifier which takes narrow scope with respect to negation" (de Swart 1998:185). The head of the complex subject, then, must be existentially quantified in order to allow for inverse scope; this is the semantic trigger for the PI, and again we see that the PI must follow it. Of course, an existentially quantified indefinite must also be in the scope of negation to license a PI; this requires inverse scope, and this is where a positive implicature is necessary. But the immediate semantic trigger is the head of the complex subject, and this must be overt and c-command the PI. In conclusion, the structures in (17) remain exceptional, but they are exceptional because inverse scope is permitted, not because the licensing of PIs does away with an overt semantic trigger in a c-commanding position.

1.4 A second qualification must be added to the generalization that polarity licensing requires c-command: simply, not all PIs require inclusion in the c-command domain of their licensors. Giannadikou (1997:18) contrasts Greek with English in this respect:

(21) a KANENAN *(dhen) idha.
 no one not saw1.sg
 'I didn't see anyone.'

b * Anybody I didn't see.

The capitalized kanenan in (21a) is the emphatic variant of an element showing all the semantic and distributional characteristics of PIs. As (21) shows, such elements can be fronted above negation while remaining in its scope. Finnish and Sámi offer further examples of PIs that can occur to the left of their licensors (Acquaviva 1998:9; note that in Sámi, as in Greek, the fronted PI must carry emphatic stress):⁷

(22) Kukaan ei tiedä sitä. (Finnish)
 anybody neg.aux.3sg knows that
 'Nobody knows that.'

(23) Mun jáhkán ahte OKTAGE ii leat boahtán (Sámi)
 I think.1sg that anybody neg.aux.3sg be come.past.ptc
 'I think that nobody has come.'

Similar facts are discussed by McCloskey 1996 for Irish. The possibility of inverse scope

licensing for PI, however, is not a property parametrized across languages. Even in English, modal need represents one familiar example of an element obligatorily interpreted in the scope of negation like other PIs, but not necessarily c-commanded by it:

(24) He need *(not) worry.

Without not, (24) would be ruled out by the lack of agreement on the third person singular form of the verb. This shows that need is a modal rather than a lexical verb, and at the same time that it must be in the scope of negation. Like the Greek, Finnish and Sámi examples just considered, modal need can be licensed under inverse scope: the obligatory interpretation of need not is "not have to", with the deontic modal inside the scope of negation. The German verb brauchen is like need in that it must lie within the scope of a negative operator, but it has no alternative non-modal reading (corresponding to he needs to do it, with agreement and a full clausal complement):

- (25) a Du brauchst dir keine Sorgen zu machen.
you need to-you no worries to-do
'You need not worry.'
- b * Du brauchst dieses Buch zu lesen.
'You need to read this book.'

Another example of an element dependent on negation but not subject to the overt c-command constraint is the archaic English verb brook, cognate of brauchen and meaning "to tolerate":

- (26) a His tone brooked no objections.
b * His tone brooked some objections.

These elements are all defined as PIs by their contextual restriction to the scope of semantically-defined operators, exactly as any N. However, the English anybody needs a c-commanding overt licenser, while its Finnish equivalent kukaan does not. Therefore, the necessity of overt c-commanding licensers is not an inherent property of polarity licensing, but only of a class of PIs:⁸

(27) All PIs must lie in the scope of a licenser; some (like any N) additionally require

that the licenser be c-commanding and spelt out.

What can motivate this additional requirement? Clearly, not the semantic interpretation, because what matters semantically is that PIs are in the scope of their licenser, and this is true of all PIs. Since c-command is a purely syntactic relation, the relevant constraint would appear to be rooted in the syntax; but this also has its problems, as we will now see.

1.5 A constraint that refers to structural prominence (c-command) among realized elements (overtness) would seem to imply a notion of "surface structure", understood as a syntactic representation that ignores null elements. However, a representation that ignored, for example, the NegP projection in sentences like (12), or the null complementizer in (15), would conceal an important piece of structural information—the very kind of information that a syntactic representation is supposed to encode. If the necessity of overt c-commanding licensers is framed in syntactic terms at all, it should plausibly refer to a level of representation conveying information on what is overt and what is null, rather than to a representation of the overt material alone.

Interestingly, such a representation is not available in the model of Grammar sketched out in Chomsky's Minimalist Program (Chomsky 1995, 1999, 2000). This radical revision of the Government-Binding framework (Chomsky 1981, 1986) in fact revolves around the idea that the only levels of grammatical representation are those indispensable for phonetic and semantic interpretation: PF and LF. Principles of Universal Grammar drive the construction of expressions legible at these two levels, under the assumption that well-formed linguistic expressions consist "solely of elements that provide instructions to the external systems at I[nterface]L[evel]" (Chomsky 2000:95). Crucially, neither of the two interface levels encodes at the same time information about semantic and phonetic interpretation: "[I]n the course of the construction of LF, an operation Spell-Out delivers the structure already formed to the phonological component, which converts it to PF" (Chomsky 2000:118). LF is by definition an abstract representation of all the grammatical information contained in the expression once it is stripped of phonological features; PF, on the other hand, represents the output of this stripping away of phonological features (Spell-Out), and therefore does not qualify as a syntactic level of representation. Only the partial structures delivered to Spell-Out are syntactic and at the same time encode information about overtness; however, these are just steps in the derivation of a complete expression, and as such do not constitute a level of representation (Chomsky 2000:140, note 8) over which one could impose a requirement amounting to (27) above.

The picture changes significantly in Chomsky 1999 (which follows the version of Chomsky 2000 first distributed in manuscript form in 1998). Here some properties of movement depend on whether certain elements are overt. Syntactic derivation proceeds by "phases", each corresponding to a substantive head and some functional shells. Every cycle is phonologically interpreted at the next cycle up; but the phonological component may rearrange this partial syntactic representation by displacing heads and entire constituents, something that prompts the observation: "Note that this amounts to highly limited access of narrow syntax to the effects of the phonological component." (Chomsky 1999:38, note 40.) Since phonology spells out partial syntactic objects in the order in which they are derived, syntactic operations on larger cycles may refer to the overtness of material in the smaller cycles they embed. For example, Chomsky (1999:28) argues that one crosslinguistically parametrized property consists in the availability of a special interpretation for the highest overt element in a particular phase.

At first sight, this significantly less restrictive model might appear to make room for a condition like (27). In fact, reference to the overtness of elements is confined to single phases, which are syntactic objects but are not levels of representation; this mixture of phonological and syntactic information is resorted to in the analysis of movement, especially those instances which do not behave according to the expectations, and are thus regarded as non-syntactic (Chomsky 1999:16, 30-31). But polarity licensing is a semantically-based condition that implies a whole syntactic representation, not local cycles, in order to compute the entailment patterns of the whole sentence. Accordingly, (27) is a condition on a representation, not on the derivation of a phrase-marker. Therefore, it is at odds with the Minimalist architecture of the language faculty, no matter how much room is made for phonology within syntax. In sum, over and above the continuously re-worked technical implementations and despite the tentative character of most assumptions, the Minimalist Program holds fast to the view that the only syntactic level is LF, where no information is available about the sound-meaning mapping.

In addition, there are some technical reasons why the overt c-command constraint in (27) cannot be stated in Minimalist terms. According to Chomsky (2000:116), the notion of c-command is derivative from the relations of immediate containment and sisterhood implied by the operation Merge, which is an ingredient of movement. The c-command relation between antecedents and traces, therefore, is a by-product of the creation of structure by Merge. But polarity licensing does not appear to involve movement (see Benmamoun 1997 and Acquaviva 1999); so the relation of c-command, if at all relevant for polarity licensing, must play a role after syntax, at LF (as is the case for Binding: Chomsky 1998:21 note 45). But LF has no information about overtness.

For the sake of the argument, suppose instead that, contrary to all appearances, the licensing of any-type PIs involved movement—understood as abstract movement in the specifier of a licenser, after Spell-Out in a language like English. But then, movement to the specifier of Neg^o in (5b-c) should not be blocked just because Neg^o is abstract.⁹ Moreover, languages where subject PIs can precede negation (as in (22) and (23)) show

that licensing is in principle available in that configuration; then, if an English PI is raised to subject position for independent reasons, as in (5a), the PI and its licenser should be in the appropriate configuration for licensing, which is apparently not the case. In short, movement can not underlie (27) in a Minimalist model.

1.6 A generalization like (27) would seem much easier to state in the Government-Binding framework, as a condition (limited to the relevant class of PIs) requiring inclusion in the licenser's scope at S-Structure, before LF movement; for concreteness, we can consider a formulation like (28):

(28) Some lexically marked PIs must be licensed as early as S-Structure.

It will be noted that even (28) runs into problems with c-commanding null licensers, as Neg^o is assumed to be in (5b-c). But there are deeper conceptual difficulties, which do not depend on specific phrase-structural assumptions. Principle (28) looks attractive because it simply anticipates to S-Structure a requirement independently justified at LF. But polarity licensing involves reference to the scope of a licenser, and scope is a semantic notion; since S-Structure is not semantically interpreted, it makes no sense to speak of "scope at S-Structure" as opposed to "scope at LF." Therefore, (28) should rather read as (29):

(29) Some lexically marked PIs must be c-commanded by their licenser at S-Structure.

In this more precise version, our hypothetical S-Structure constraint reveals its true nature of a simple restatement of the facts: nothing in the concept of S-Structure makes this condition inevitable, and nothing motivates its application to the relevant class of PIs. What is more, a condition like (29) would face empirical problems with inverse-scope structures:¹⁰

- (30) a Fathers of few sons have any fun.
 b The accreditation of no college ever takes longer than three years.

In these cases the PIs any fun and ever are not c-commanded by the monotone decreasing determiners few and no , but by the whole subject DPs over which these quantifiers have scope. A formulation like (27) is not violated, if we understand "licensers" as referring to the subject DPs in cases like these. The formulation in (29) adds that the licensing configuration must hold at S-Structure. To comply with this

stronger condition, the head of the complex subject DPs in (30) must be provided with the licensing features (originating in their complement) before LF. In most approaches that recognize S-Structure and LF as distinct levels this is impossible, because a quantifier embedded in a projection XP would take scope over XP by raising at LF. Indeed, the contrast between (30a) and (31), where few sons is embedded in an adjunct island, suggests that the embedded quantifier can only take scope over the subject DP by means of LF movement (or at least by some formal operation subject to similar locality conditions):¹¹

(31) * Fathers with few sons have any fun.

Therefore, (29) is incompatible with the view that few sons and no college in (30) reach their scope positions after S-Structure. Another possibility, argued for by Williams 1986, consists in keeping the distinction between S-Structure and LF, while at the same time representing scope relations at S-Structure. In this approach, few sons and no college in (30) do not raise at all, because their scope is encoded at S-Structure. But they have scope over the whole sentence, not just over the subject DPs; yet the subject DPs must crucially count as licensers, otherwise there would be no c-commanding licenser for the PIs and (29) would be violated. Even apart from this complication, and from the persisting difficulty with null licensers, Williams's (1986) approach would be fundamentally at odds with the basic idea that licensing requirements are anticipated to S-Structure for a special class of PIs. This is so, because polarity licensing requires scope, but in Williams's model all scope domains are encoded at S-Structure; reference to this level (as in (28) above) cannot discriminate between different classes of PIs.

In sum, the generalization in (27) would remain problematical even reverting to a notion like S-Structure. With respect to Minimalist views on the architecture of grammar, the chief problem is the reference to overttness, which LF does not allow; and with respect to a Government-Binding formulation like (29), it is scopal information, which cannot be naturally encoded before LF.

The foregoing considerations, based on just two (historically related) approaches to the architecture of grammar, do not in themselves prove that the facts described in (27) cannot be handled by "syntax" in general. They do show, however, the need for a surface representation distinct from S-Structure or PF; a representation that ignores non-realized elements but at the same time encodes information about PIs, licensers, and the structural relation between them.¹²

2 The case for a morphological approach.

2.1 Syntax does not primarily represent sound, and phonology does not primarily represent syntactic structure; therefore, a generalization that refers to phonological interpretation and to syntactic structure at the same time will not sit comfortably in models where syntax is immediately mapped to phonology. If this mapping is mediated by a distinct morphological component, however, an alternative option is available: that (27) reflects a morphological constraint, operative at the point where only those syntactic elements are visible which will be phonologically interpreted. This interpretation of (27) requires a post-syntactic morphological module having direct access to syntactic features, so that PIs and licensers are visible as such. In addition, information about syntactic structure must be accessible; this is possible if the morphological component is defined in such a way as to interface with complete syntactic representations, as opposed to single terminals or to "lexical items."

The post-syntactic morphological module envisaged by Distributed Morphology (DM; Halle and Marantz 1993, Noyer 1997, Halle 1997, Harris 1997, Harley and Noyer 1998, 1999, Embick 1998, 2000) has these characteristics; I will therefore explore an account for (27) framed in Distributed-Morphological terms. This framework represents a particular implementation of what has come to be known as the Separation Hypothesis, originating with Beard 1966 and most extensively articulated in Beard 1995. A separationist perspective emphasises the conceptual distinction between the organization of grammatically relevant information and the issue of its realization; the two domains and the units involved are related but distinct entities. DM endorses this approach by claiming that the atoms of syntactic representations are not words or lexical entries, but rather abstract information organized in feature bundles. Syntactic movement contributes to define the clustering of such features, in keeping with the idea that inflection (and some derivational processes) is carried out in the syntax (Chomsky 1965, Baker 1988), but contrary to Chomsky's (1995) lexicalist stance in which syntax manipulates fully inflected lexical items. Word-building is performed by a distinct morphological component, which manipulates output syntactic representations and determines the insertion of word forms on the basis of morphological criteria. More precisely, completed syntactic structures enter a component labeled Morphological Structure, where operations such as impoverishment, fusion, fission and merger may modify the syntactic output by minimally rearranging terminal nodes within strictly defined limits. The isomorphy between syntactic terminals and morphological units may be further lessened by the addition of material at Morphological Structure. Halle and Marantz (1993) cite as examples the thematic vowels characterizing the verbal inflectional

systems of many Indo-European languages, and in English the Agreement morpheme added at MS to the V node to which Tense has been merged (Halle and Marantz 1993:135-136; Halle 1997:427). Note that the "morphological" qualification attached to this component of the grammar does not mean that syntactic structural information is immediately obliterated; this only takes place when morphology undergoes linearization, having completed the rearrangement of syntactic terminals. The resulting string is then interpreted by Vocabulary Insertion, which maps terminal nodes to elements from the Vocabulary; the latter is understood as the list of pairings between available word-forms and "meaning", again represented in form of features. To interpret a terminal X, a Vocabulary item must be specified for a subset of the features represented under X (Halle 1997:428), provided it is not blocked by another candidate with a closer match. Distributed Morphology thus synthesizes important aspects of the "Word-and-Paradigm" approach (Matthews 1972, Anderson 1992) with the typically "Item-and-Arrangement" view that syntax constructs words from smaller units, although these are rather indirectly linked to actual morphemes.

A clarification is in order on the relation between DM and Minimalist views on syntax. DM holds that lexical items are formed and manipulated in and after syntax. As Halle and Marantz (1993) explicitly note, this is in principle incompatible with the strong lexicalist view implied by Checking Theory in Chomsky 1995. In abandoning the machinery of Checking Theory, Chomsky (2000) leaves room for an intermediate step before Spell-Out, corresponding to DM's morphological component (Chomsky 2000:142 note 27; 119). Even in this revision, however, the primitive syntactic operations are still defined over lexical items. This presupposes a notion of lexical item prior to syntax, which seems at odds with Chomsky's claim (2000:142 note 27) that a revision along DM's lines would be "straightforward." Likewise, Chomsky (1999:7-8) makes room for DM, but makes it clear that syntax manipulates lexical items, pre-formed entities which only admit later modification in exceptional cases. But for DM it is essential that the syntactic terminals should not be made up of the listed sound-meaning mappings encoded in the Vocabulary: otherwise, there would simply be no need for a distinct morphological module after syntax.¹³ I should therefore clarify that the model of morphology I am following presupposes a model of (narrow) syntax that cannot be directly identified with Chomsky's approach (1995, 1999, 2000).¹⁴

2.2 As a first step in providing a principled reason for the generalization (27), the overt requirement can be understood as follows: some PIs are lexically marked in such a way to require a licenser in a particular configuration (where what counts as PI and licenser is expressed in terms of features); since this requirement applies after syntax,

abstract elements do not count, because they do not appear at Morphological Structure.¹⁵

Under this interpretation, licensers must be overt because they are necessary for the morphological well-formedness of PIs, whatever this morphological requirement may be. If the source of the overttness requirement lies in the morphology of PIs, then we expect this condition to be suspended when PIs are not morphologically interpreted; that is, in contexts where PIs are interpreted but not spelt out. Indeed, PIs display an unexpected behaviour when they are "reconstructed" as part of an elided constituent, as in the following example of VP-ellipsis noted by Bobaljik (1995):

(32) I didn't see anyone, but Bill did.

VP-deletion has applied, so that Bill is understood as the agent argument for the verb see; did is followed by a null VP whose content is recovered from the preceding VP see anyone. In this particular case, however, the VP contains a PI. It is correctly licensed in the source VP, but no licenser appears in the clause after but for the copied VP. The result should be ungrammatical; in fact, the sentence is uniformly acceptable under the interpretation "I didn't see anyone, but Bill saw someone."

Generally, ellipsis seems to reconstruct a syntactic LF representation up to syntactic identity, whether the elided site is viewed as "reconstructed" or (as in Chomsky 1995) underlyingly present but not spelt out. Then, as Bobaljik observes, the LF representation corresponding to the elided VP in (32) must include a category interpreted as "someone", as opposed to "anyone." This is a way of saying that the PI anyone corresponds in the syntactic representation to a bundle of features defining a simple indefinite, singular, [+human] (in fact, someone differs from this characterization in being additionally a positive PI). It is these features which are then copied into the elided VP. Since they do not enter morphological interpretation, there is no need for an overt licenser, or indeed for a licenser at all.

This cannot be the whole story, however. If all the features that distinguish a PI from a simple indefinite only emerged after syntax, as (32) seems to suggest, then syntax would effectively be blind to PIs; but then none of the familiar conditions on polarity licensing could apply, under the assumption that morphology does not feed LF. To avoid this conclusion, I will reject the view that anyone is only defined as a PI when it is morphologically interpreted. Suppose instead that PIs are represented in syntax (and LF) as feature bundles that include a marker for dependency; suppose, that is, that the scopal dependency that characterizes PIs is visible in the syntax:

(33) ANYONE = [dependent, ... indefinite, human, sg, ...]

With respect to (33), the feature bundle reconstructed in the direct object position of the elided VP in (32) lacks the [dependent] qualification. I think it is preferable to relax the condition of syntactic identity between source and reconstructed phrase, rather than lose the possibility to define PIs outside of morphology. In itself, a non-perfect match between source VP and the material interpreted in the elided VP is nothing exceptional; see in particular Fiengo and May 1994 for a formalization of the notion "vehicle change", which should derive grammatical structures like the following for those speakers (not all) who accept them:

(34) Mary [lost her temper] yesterday, and John will [VP e] today.
(Cormack and Smith 1997:225)

Here the inferred interpretation "and John will lose his temper today" requires a switch from her to his, a change in meaning that (unlike more usual instances of sloppy identity) also involves a change in form. Note that this adjustment is licit even though the feature [feminine] is certainly an inherent property of the Vocabulary item her as opposed to his. In the same fashion, reconstruction can apparently abstract away from PIs their non-dependent content, leaving a simple indefinite as the counterpart of anyone in (32). Actually, there is evidence that this kind of readjustment can go even further for those speakers who can accept reconstruction with idiomatic PIs:

(35) a % I don't [know beans / a damned thing about linguistics], but I bet she does [VP e].
b % I don't [give a damn about linguistics], but I bet she does [VP e].

Unlike anyone, argument idioms like a damned thing or VP-idioms like know beans or give a damn do not express a pronominal content which could be associated with a semantic variable. On this basis, they should not allow reconstruction ("... but I bet she knows [a damned thing]"); however, while most speakers I consulted confirmed this expectation, some seem to accept reconstruction even in these cases. What is more, some speakers (but not all) allow even negative quantifiers to be reconstructed as non-negative indefinites (thanks are due to Paul Postal for drawing my attention to these cases). Interestingly, reconstruction appears to be easier with partitive negatives:

(36) a I could find no solution, but Holly might [VP e].

(Johnson 2001:468)

- b Although Ken receives no foreign magazines, Jack does [VP e].
- c I could believe none of those reports, but maybe you can [VP e].

Since judgments are not uniform, I will not try to offer a complete account for the reconstruction facts. A pattern does emerge, however: the reconstruction as a non-negative indefinite is progressively less acceptable along the scale any N > polarity idioms > partitive negatives > non-partitive negatives.¹⁶ This suggests that semantic factors, as opposed to simple syntactic identity, play an important role in determining what can be reconstructed as an indefinite. According to an approach that goes back to Akmajian 1973, more recently revived by Culicover and Jackendoff (1995) and Jackendoff (1997), the content reconstructed in the ellipsis site is the presuppositional part of the antecedent, while focused expressions are abstracted away. Crucially, the articulation of focus and presupposition is not achieved by syntactic movement of focus at LF: as a consequence, the copied information need not be syntactically identical with the antecedent. For example, in (37) (from Jackendoff 1997:75) the focus Mary is abstracted from the VP kissed Mary, and the pronoun it is then interpreted as kissed x:

(37) John kissed Mary, and then it happened to Sue too.

Clearly, there can be no question of syntactic identity here between John kissed x and it. Culicover and Jackendoff (1995) argue that reconstruction involves a non-syntactic module of Conceptual Structure, rather than LF. This non-syntactic approach gives the right results for PIs and negation: apparently, speakers can extrapolate the interpretive value of PIs abstracting away from their dependent nature, and at least some speakers can replace this value for whole idioms. A simple negative quantifier like nothing, on the other hand, is inherently non-presuppositional (compare *nothing about linguistics, she certainly knows) and is therefore unfit to be included in the antecedent.¹⁷

The point of this digression on ellipsis has been to show that PIs which are spelt out behave differently from those which have not been morphologically interpreted, even though the defining contextual restrictions on PIs are semantic and have in principle nothing to do with morphological interpretation. Strictly speaking, a PI that is "copied" into an ellipsis site is no longer a PI (or at least does not need to be one, as in the sentences above); but this shift from dependent to non-dependent status can only apply where morphological interpretation is not involved. Since morphological interpretation affects in such a way the interpretive possibilities of PIs, it seems plausible to view the overtiness constraint on licensers as another, perhaps indirect, consequence of

morphological interpretation: some PIs need a spelt-out licenser because of their morphological make-up. The question, then, is just what in the morphological interpretation of any N-type PIs brings about the need for an overt licenser. Before addressing that question, however, another aspect of the generalization in (27) should be examined.

2.3 The generalization (27) has another ingredient beside overtness of the licenser: c-command holding between licenser and PI. Such a structural relation can in principle be expressed within a framework like DM, where the morphological component takes syntactic representations as input. Indeed, sensitivity to syntactic structure is one of the hallmarks of DM.¹⁸ Still, reference to c-command at a post-syntactic level is theoretically costly and requires adequate motivation. In fact, a closer scrutiny reveals that appeal to c-command at Morphological Structure runs into unexpected problems.

Consider the form (27) would take if we incorporated c-command within the requirement holding in the morphological component:

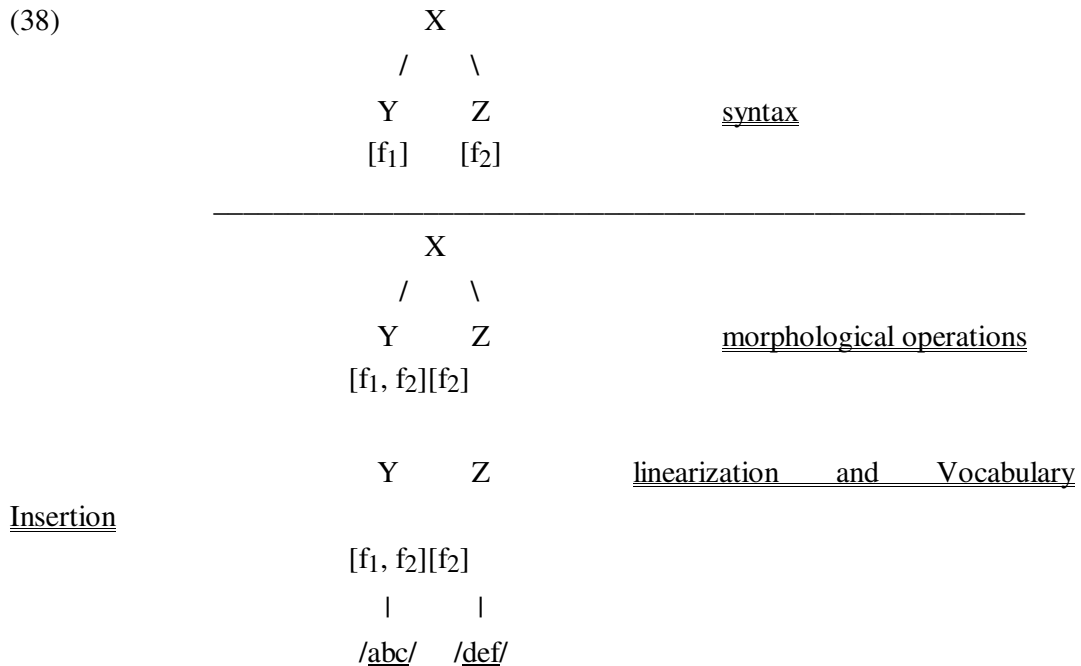
- (27) All PIs must lie in the scope of a licenser; some (like any N) additionally require that the licenser be c-commanding and spelt out.

- (37) All PIs must lie in the scope of a licenser; some (like any N) additionally require a c-commanding licenser at Morphological Structure.

The overtness requirement in (27) follows by the simple fact that the condition (37) is stated at Morphological Structure; but c-command is not justified in any independent way. In effect, a formulation like (37) would extend the licensing requirement for PIs to the post-syntactic level, more or less like (29) anticipated it to S-Structure. The conceptual objection is the same as for (29): "licensing" and c-command are terms that make sense at LF, where structural relations are read in scopal terms; to extend licensing configurational requirements to Morphological Structure simply amounts to restating the facts.

This is not the only problem. The label "Morphological Structure" in (37) refers to the post-syntactic level of representation where morphological operations manipulate the output of syntax. A subtle contradiction emerges, however, if we try to make this notion more precise. On the one hand, this must be a representation that only includes material on its way to be phonologically interpreted; if it also contained null elements, the necessity of overt licensers and the role of overtness in general would lose their explanation. But on the other hand, the representation mentioned in (37) must display

the structural information of its syntactic input. Why should such a representation ignore null elements? Recall that the morphological component of DM is not just an interface: its "syntactic side" manipulates syntactic representations, and its "phonological side" linearizes the string of terminals to be realized and interprets them by inserting the appropriate Vocabulary items (which in turn provide instructions to the phonological component). This is schematically illustrated in (38), where terminals Y and Z have the features [f₁] and [f₂] in the syntax; morphology adds [f₂] to Y under syntactically defined locality, and the resulting string is spelt out by the Vocabulary items /abc/ and /def/:



Before Vocabulary Insertion pairs terminals with Vocabulary items, all information is abstract; in particular, the morphological operations that refer to a structural context manipulate abstract features. But the structural context is syntactic, and therefore independent from what will and will not be spelt out. In short, morphology cannot be said to have access to syntactic structure unless this structural information includes every node and every terminal, regardless of Spell-Out. Stated in these terms, the contradiction between the limitation to overt material and the reference to c-command in (37) is inescapable.

I think that the only way out of this dilemma is to give up the assumption that c-command plays a role in the morphological (as opposed to semantic or syntactic) licensing of PIs. Since overtness does play a role, whatever replaces c-command must be defined over a representation consisting only of material to be spelt out; and since the

linearized string is such a representation, I will replace c-command with precedence in the linearized string:

- (39) All PIs must lie in the scope of a licenser; some (like any N) additionally require the licenser to precede them in the string interpreted by the Vocabulary.

Besides avoiding all conceptual problems, the appeal to linear precedence accounts in a unified way for all the data, including inverse-scope structures like (30): even in those cases, the licenser precedes any N, even though it does not c-command it. This sets off the grammatical (30a) from the ungrammatical (5b), for example:

- (30) a Fathers of few sons have any fun.
(5) b * I gave any present to no relatives.

Moreover, disentangling scopal from morphological requirements also helps clarify just what must count as licenser: it must be a terminal node, or more precisely a morphologically interpreted terminal. Consider an example like (40):

- (40) Under no circumstances will I accept anything from them.

Neither the D no nor the DP no circumstances c-command anything, although the negative quantifier has sentential scope (as the raised auxiliary shows). At LF, the licenser is the whole fronted PP; but the morphological requirement cannot be met by this complex phrase, because it is terminal nodes that undergo Vocabulary interpretation.¹⁹ But (39) does not refer to scope or c-command; it only imposes linear precedence, and this holds of the pair of terminals no and anything. All other conditions on polarity licensing refer to a non-linearized structure, and can therefore refer to features marked on non-terminal nodes.

The generalization now stated as (39), therefore, refers to elements resulting from the application of the morphological operations (including linearization) to a subset of terminals of a syntactic representation. They are feature bundles, which will be interpreted by the Vocabulary of the language (a list of pairings between feature bundles and phonological exponents) and in conformity with general principles of rule application. Noyer (1997: xlvi) is at pains to clarify beyond any possible doubt that the units of such a representation should not be conceived of as "morphemes" in the sense of sound-meaning mappings, nor as positions of exponence, least of all as affixes. They are theoretical constructs peculiar to an approach to morphology where the interface with

syntax involves translating (and possibly rearranging) syntactic terminals into units of a purely morphological representation, and only then adding phonologically relevant information. Noyer (1997) calls these elements "morphosyntactic constituents", or M° 's. Following this usage, we can describe the morphological constraint on PIs like any N as follows:

- (41) M°_1 must linearly precede M°_2
where the features of M°_1 define a licenser, and those of M°_2 a PI (like any).

The question, now, is whether the morphological component of the relevant languages states something like (41) as a specific constraint, or rather derives its effects by the organization and the interplay of morphological operations. In the following section I will explore the latter possibility.

3 Morphological analysis.

3.1 In (42) below the PIs budge an inch, a damned thing, the least bit, any change and anything are visibly licensed by, respectively, negation, a negative quantifier, the universal quantifier in its restrictive term (a downward entailing context), a conditional, and a yes-no question operator:

- (42) a John didn't budge an inch.
b No one knows a damned thing.
c Every student who knows the least bit about logic ...
d Should you notice any changes, call me.
e Did you say anything?

All of these PIs are subject to the generalization (41), arguments and idioms alike, DPs and VPs. One thing that is clear is that there cannot be any question of a single affix shared by all PIs in the relevant class (or by their licensers, for that matter). Therefore, if a deeper morphological explanation exists for (41), it must hinge on abstract properties of morphological interpretation. The only "abstract properties" that fit this description are the features making up each of the M° 's in the linearized string.

As regards their featural content, all licensers share at least one property: that of being operators, as opposed to arguments or descriptive predicates. I will analyze their

different quantificational contents (negative, polarity reversing, universal distributive, yes-no, adversative, etc.) as values for a common feature [operator]. Note that this must include existentially quantified indefinites like tickets or a doctor in inverse-scope constructions like (17).

The PIs, on the other hand, differ from each other in syntactic category, idiomatic value, and grammatical features. I take anyone and anything to be indefinites of category D, singular animate and inanimate respectively. Any changes is a more articulated DP, where the D node has the same information as anything but an additional piece of information is provided under the N node (semantically, the restriction) with a grammatically plural noun. The whole DP a damned thing is a phrasal idiom, specified as inanimate; the features appearing under the terminals must encode the non-compositional meaning corresponding to anything, plus emphasis. The same applies to the least bit, which must also specify that the expression marks the lowest end in a context-given scale, which is the most informative in a downward-entailing context (Israel 1996). The semantic contribution of phrasal idioms like those in (42b-c) must be specified for the whole DP node. The difference with fully compositional phrases is that the interpretation of latter is a function of the value of their terminals, while idioms must separately specify the value of the complex and that of the terminals.

Over and above all these differences, however, the semantically dependent nature of PIs must be visible before morphology (see section 2.2 above); to that purpose, a special feature [dependent] marks all and only semantically sensitive elements, whose interpretation depends on the interpretation of another element in the sentence. Just like [operator] can have many values, I take [dependent] to be a feature whose values range over the possible licensors. Negative PIs are [dependent: downward entailing], or perhaps better [dependent: polarity reversal], although for brevity I will simply refer to the feature alone in what follows.

In conclusion, the class of PIs to which (41) applies must instantiate the following linear configuration, where an M° that includes the feature [operator] precedes an M° that includes [dependent] (where the values for both features must be interpretively compatible):

(43) ... [... operator: xyz ...] ... [... dependent ...] ...

What property of PIs can possibly require that morphological units are arranged in this configuration just before they are interpreted by phonological matrices?

My (tentative) answer is that the relevant PIs are "special" in that they cannot be spelt out unless information about their licensor is provided, and this information can

While acknowledging that the precedence constraint in (45) requires additional independent justification, I will therefore assume that an explanation in terms of copying can be sustained. Let us now consider the details of this proposal.

3.2 Within DM, the morphological interpretation of terminals is accomplished by association with Vocabulary items, which are listed sound-meaning mappings; the exponent is then inserted in the M° whose features match the input features of the Vocabulary Item. However, Vocabulary insertion does not require identity between the terminal and the input features of a Vocabulary item; underdetermination is allowed, subject to the Paninian principle that the most specific match blocks the less specific one. Halle (1997) formulates this constraint as a "Subset Principle":

(46) The Subset Principle (Halle 1997:428)

The phonological exponent of a Vocabulary item is inserted into a morpheme in the terminal string if the item matches all or a subset of the grammatical features specified in the terminal morpheme. Insertion does not take place if the Vocabulary item contains features not present in the morpheme. Where several Vocabulary items meet the conditions for insertion, the item matching the greatest number of features specified in the terminal morpheme must be chosen.

"Terminal morpheme" here refers to a syntactic terminal (Halle 1997:426), more clearly characterized by Harley and Noyer (1999:4) as "atom[s] of morphosyntactic representations." I will retain Noyer's (1997) label " M° ," however, because it does not suggest the idea of atomic pairing between sound and meaning. The latter concept, as we have seen, is called a Vocabulary item.

The Subset Principle constrains the mismatch permitted between the content of an M° and the content of a Vocabulary item. This provides us with a way to formalize the intuitive idea that PIs subject to (41) cannot be spelt out by the Vocabulary without additional information (copying): suppose that exponents like ever, any N and even idioms like budge an inch (in so far as they must be listed) are associated in the Vocabulary with a feature bundle that includes the specification [operator]. By the Subset Principle, they can only be inserted in terminals that contain this feature. But by hypothesis (cf. (43)) the terminals that define PIs are not [operator]; PIs are dependent on operators and on quantifiers of a certain type, but are not themselves quantificational. Therefore, such terminals cannot be spelt out by Vocabulary items that also provide an exponent for the [dependent] feature: strictly speaking, insertion of ever, any N, budge an inch and the like is blocked. What makes it possible is the copying procedure

illustrated in (43)-(44) above, whereby a terminal interpreted as PI receives a purely morphological piece of information in the form of the feature [operator], copied by a preceding licenser according to (45). The feature bundle of the terminal now includes the features specified in the Vocabulary item, and Vocabulary Insertion can take place.

To see a concrete example, consider the determiner any. Since it is compatible with both singular and plural nouns, it clearly is not an exponent of number, nor of gender features. At first sight, it may look like a [dependent] nominal determiner unmarked for agreement features. But its nominal status is not obvious, since it can appear as modifier of a comparative adjective, subject to normal licensing requirements:

- (47) a Are you feeling any better?
 b * I feel any better now.
 c I feel much better now.

Following Corver 1997, I assume that adjectives are dominated by at least two distinct functional projections, Q° and Deg° , and that comparative adjectives raise to the latter (and higher) one. Any in (47a) is then a modifier of the comparative operator, which appears in the same position as much in (47c) when in the scope of a licensing operator like a yes-no question. Since it seems unlikely that an element with this distribution could be a nominal determiner D, we are left with the feature [dependent] alone: any is thus the minimal expression of polarity dependency. By the proposal just sketched out above, however, I will suggest that the exponent any is in fact paired with the feature [operator] as well:

- (48) [operator, dependent] <---> any

Indeed, the inclusion of [operator] among the input features of a Vocabulary item is the crucial property that characterizes those PIs which require an overt and preceding licenser. The Vocabulary item for modal need, for example (cf. section 1.3 above), specifies [dependent] along with the other features that define the semantics of this verb, but not [operator].

Consider now the morphological interpretation of a terminal characterized as follows:

- (49) [Det, 3 sg. masc., dependent]

This set of morphosyntactic features identifies a determiner dominating a singular

masculine noun, with additional information about semantic dependency. Like all terminals that define a PI, that represented in (49) includes the feature [dependent], but does not include [operator]; because of the Subset Principle, the Vocabulary item (48) cannot spell out the terminal in (49). Another Vocabulary item might be inserted, for example that defining the article a; though compatible with the Subset Principle, however, this would mean that no PI would ever be expressed, because an element like a is not an exponent for [dependent]. Besides, a is singular and could not lexicalize a terminal marked plural (while PIs can have plural number, like any cats). Copying, constrained as in (45), allows the morphological component to maximize the exponence of features: if a terminal appears before (49) in the string and it is provided with the feature [operator] (and if all semantic and syntactic conditions on polarity licensing are met), this feature is copied into the feature bundle represented in (49), which then becomes (50):

(50) [Det, 3 sg. masc., dependent, operator]

The added [operator] feature takes on the same value of its source, namely, the value of the licenser.²⁰ Now the features listed in (48) are a subset of those in (50), and the exponent any can be inserted under this terminal (because in this case no other Vocabulary item matches its features more closely). Note that, like other morphological operations, copying must precede Vocabulary Insertion and the competition among Vocabulary items for insertion in a given terminal.

3.3 Any is a particularly revealing example because, while budge and inch or ever only have the reading of PIs, expressions of the form any N allow a "free-choice" reading, in the appropriate context:

- (451) a (Just) Anything John does is wrong.
 b Anybody can do it.
 c * Yesterday, Michael read any paper.

Free-choice any has systematically the same form as PI-any, and both are semantically operator-dependent items (see Giannakidou 1998, and references therein). However, free-choice any is dependent on the semantic context alone: provided the sentence is compatible with a generic, non-episodic interpretation (unlike (51c), for example), free-choice any is licensed, without requiring a spelt-out licenser nor a particular configuration. One aspect of this different distribution is that only free-choice any can be

employed in isolation in responsiveness:

(52) Who could possibly have killed the old man? (Practically) Anyone here.

It thus seems that free-choice any has intrinsic operator features. Since there is evidence that it is at the same time dependent on an appropriate operator (non-veridical rather than downward entailing: cf. Giannakidou 1998), I will hypothesize that terminals interpreted as free-choice any contain an operator with a value expressing the semantic notion "non-episodic":

(53) [dependent: non-veridical, operator: non-episodic]

Compare now the featural analyses proposed for the two types of any:

(54) a Polarity any

composition of the M^o: [dependent]

Vocabulary item: [dependent, operator] <---> any

b Free-choice any

composition of the M^o: [dependent, operator]

Vocabulary item: [dependent, operator] <---> any

In two different senses, the two elements are and are not the same lexical item. They are the same morphological word, as is desirable, because both are spelt out by one and the same Vocabulary item. But they lexicalize two distinct feature bundles, and therefore two distinct elements, in syntax and at LF. Although their difference is minimal, it has one important consequence: only for polarity any is the morphological encoding (the Vocabulary item) incompatible with the featural content of M^o, because of the Subset Principle. Therefore, only polarity any needs copying of [operator] as a repair strategy, and consequently an overt and preceding licenser. With respect to polarity any, its free-choice counterpart is thus morphologically identical, but distributionally and interpretively distinct; the analysis independently devised for PIs like any accounts rather naturally for such a complex state of affairs.

Conclusion

That (certain) PIs cannot be licensed under inverse scope has been a familiar observation since the inception of studies on polarity items. The first goal of this study has been descriptive in nature: I have presented evidence that the unacceptability of some PIs inside the scope of their licensers is not a natural by-product of semantic requirements plus the need for c-command, but points to a distinct factor. The usual conditions on polarity licensing are supplemented, for a class of PIs that in English includes any N but not modal need, by a requirement to the effect that the PI must be preceded by a spelt-out licenser.

A distributional constraint that refers just to overt material is unlikely to be syntactic. In view of the role of linear precedence among spelt-out terminals, I have argued for a morphological approach. Within the DM framework, I have stated the generalization as in (39):

- (39) All PIs must lie in the scope of a licenser; some (like any N) additionally require the licenser to precede them in the string interpreted by the Vocabulary.

Indicating with M° 's those morphological units that feed Vocabulary insertion, (39) takes the form of (41):

- (41) M°_1 must linearly precede M°_2
where the features of M°_1 define a licenser, and those of M°_2 a PI (like any).

The licensing operator must be overt, because the procedure takes place after morphology has transformed the syntactic hierarchical structure into a string of morphological units, ready for Vocabulary insertion and phonological interpretation. In this way, a constraint of syntactic (contextual) nature has been reinterpreted in morphological terms: the overtness restriction is thus directly accounted for, while the contextual restriction can be phrased in morphological terms under a view of morphology like that expounded by DM: a post-syntactic component that takes syntactic representations as input, manipulates them and gives as output a string of linearized sound-meaning mappings. This approach, in turn, rests on the more basic intuition that morphology is a component of the grammar characterized by its own properties, whose function it is to relate two types of entities (features and exponents) which are fundamentally separate.

The generalization (39)-(41) is the consequence of two facts: first, a mismatch

between the featural content of the relevant PIs (as they appear in syntax) and the input features for their exponents; second, a copying procedure, which can integrate a feature bundle with a feature present under a preceding terminal. The mismatch arises because terminals interpreted as PIs are [dependent] but not [operator], while their exponents require both features. Given this mismatch, Halle's (1997) Subset Principle prevents PIs to be spelt out as such. However, lexicalization can be rescued if the licensing operator precedes the PI at Morphological Structure, as in (45). In this configuration, the terminal PI can receive an extra [operator] feature by copying it from its licenser.

The copying procedure is the most stipulative part, but feature copying in itself is hardly a novelty in morphological analysis, nor is the idea that morphosyntactic features (or their values) may be filled in some underspecified elements (cf. Farkas 1990, Wiklund 2001). The addition of an [operator] feature to certain PIs may be regarded on a par with other proposals where morphological information (positions of exponence, features, or diacritics) is added post-syntactically in a syntactically defined configuration (cf. especially Embick 1998, 2000). However, the copying procedure I have hypothesized applies to a linearized string, not to a specified syntactic structure; and it requires precedence, but not adjacency. To the extent that this linear constraint on copying is stipulated, an important part of the descriptive generalization that some PIs require a preceding overt licenser is, in effect, restated. What is not stipulated, though, is the connection between linear precedence and overtiness: there would be no reason why these two requirements should go hand in hand, if the condition (for instance) was a purely syntactic one. In addition, it seems plausible that the constraint in question is not motivated by the syntactic or semantic properties of PIs, because not all PIs are subject to it. Finally, a morphological approach that distinguishes features of terminals from features of Vocabulary items is best suited to tease apart polarity- and free-choice any, rather than lumping them together (despite the different distribution) or keeping them totally separate (despite the identical form).

I think these results are enough to suggest that some aspects of polarity phenomena are best approached from a morphological perspective. In so far as such an approach is fruitful, whether in the terms of the present study or otherwise, it will strengthen the case for morphology as an autonomous module, liable to shed light on other aspects of grammar.

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Notes

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¹ The reduced negation n't in (7b) is part of the inflectional head hosting did, cliticized or more probably affixed to it (see Zwicky and Pullum 1983).

² I assume that the scope of negative and universal quantifiers in (7) and (10) is marked by a functional projection whose head hosts quantificational features: NegP and DistP, respectively (on the latter, see Beghelli and Stowell 1997).

³ Kayne (1998) hypothesizes a drastically rethought theory of movement which would eliminate the need for many (or all) instances of posited LF movement. In the case of (11), no one even with wide scope ("I will not force ...") would end up not c-commanding anyone (Kayne 1998:140-141). The elimination of LF movement is achieved at the price of positing overt movement in a great many cases, however, mostly without independent evidence, plausible triggers or a reasonably worked-out theory of constraints. For

example, English verbal particles are assimilated to Romance clitics for their limited ability to raise out of embedded clauses (Kayne 1998:142-144); but the well-established Romance facts provide clear-cut judgments, whereas long-distance particle preposing in English is just said to be difficult ("cannot readily apply":143). Uneven acceptability is thus restated as uneven applicability of the rule, with no explanatory gain.

But even granting that Kayne's (1998) analysis may be more convincing than it appears to me, there is an objective reason why I will not discuss it in the text. By equating scope relations with overt c-command relations, it denies that PIs in cases like (5) are in the scope of negation. But this leaves unexplained the behavior of simple indefinites in (6), (7) and (8), in structures that must be identical to (5) according to Kayne's assumptions. This asymmetry between indefinites and PIs is precisely the starting point of the present analysis.

⁴ Duffield (1994:232) claims that "at least one Case-marked member of the NPI chain must be c-commanded by NEG". This formulation would explain the acceptability of sentences like any fellow wouldn't bother joining in in Hiberno-English, since the specifier of TP is arguably a Case position in that variety. But he does not explain why Case should be relevant, nor why ever or give a damn (which are not Case-marked) are subject to the same restriction. Besides, his condition applies at LF; this substantially weakens its predictive power, since it is not obvious when negative elements raise at LF and when they do not.

⁵ The generalization that PIs must be licensed by a visible licenser also covers a fact noted by Dominique Sportiche: in French, where yes / no and (some) constituent questions do not require a realized Wh-morpheme in COMP, a PI is only licensed when the complementizer is lexically expressed:

(i) [CP As-tu [IP t vu qui que ce soit]]?
'Did you see anyone?'

(ii) * [IP Tu as vu qui que ce soit]?

The explanation proposed by Sportiche involves a structure for (ii) where the licensing complementizer does not c-command the PI (the whole IP is in the specifier of C). But this misses the generalization that (ii) belongs with (5) above to the class of structures where the licenser is not spelt out.

⁶ The licensing environment for PIs in this case is just the restrictive relative clause, not the entire complement of mistake; compare the unacceptable *you're obviously mistaking me for anyone who gives a damn.

⁷ Moroccan Arabic PIs, as analyzed by Benmamoun (1997), provides an additional example of dependent items which can precede negation. Benmamoun's conclusion is more subtle, however: an Arabic PI can precede negation only if it is in specifier-head agreement with it (not, for example, if it is embedded inside the specifier). This seems to suggest that Arabic PIs are more similar to Romance N-words than to English PIs (for different approaches, see Laka 1990, Longobardi 1991, Moritz and Valois 1994, Progovac 1994, Acquaviva 1997a, 1997b, 1999).

⁸ Since need, brauchen and brook are all verbs and none is subject to (27), it is tempting to speculate that the overt c-command requirement is somehow related to the non-verbal category of PIs (as suggested by a reviewer). But the examples in (21)-(23) do not involve verbs. It may be that all these elements, not just Arabic PIs, are more similar to Romance N-words than to English PIs, as noted in the preceding note;

however, N-words appear in isolation, unlike English any and, for instance, Finnish kukaan. Also, VP-idioms like give a damn, lift a finger or do as much as x do not seem acceptable before negatives:

- (i) * Give a damn, I certainly won't.
- (ii) * Jim would lift a finger for nobody else.
- (iii) * Bill would do as much as send a card to none of his relatives.

Since the facts are not clear, and I cannot see how a categorial restriction might affect the main argument, I will leave this matter open.

⁹ This assumes the presence of NegP as scope position of sentential negation.

¹⁰ The examples (30a) and (31) are from Jackendoff 1977, cited by Heim (1987:25-26); they are also discussed in Acquaviva 1997a:243. (30b) is from Hornstein 1995:108. I should like to add that not all speakers accept these sentences, although the cited authors present them as grammatical without further comment.

¹¹ The issue of the syntactic encoding of quantifier scope has received considerable attention since May 1977, 1985. Cf. Longobardi 1991 for the syntax of negative quantifiers and only-phrases, and Acquaviva 1997a for that of monotone decreasing quantifiers in general.

¹² For completeness, I should mention that Aoun, Hornstein, Lightfoot and Weinberg (1987) proposed to distinguish two syntactic locality conditions, one of which was held to constrain the mapping of S-Structure to PF. At first sight, this is just an example of a syntactic constraint sensitive to overtiness, which I have argued to be impossible within the GB model. However, their proposal dealt with the licensing of empty categories other than traces and PRO. This implies a representation abstract enough to express distinct types of null elements, clearly very different from a "surface structure" where only overt material plays a role. In fact, their analysis concerned the branch of syntax leading to PF, not PF itself.

¹³ Outside DM, Jackendoff 1997 contains important observations about the place of the lexicon in the language faculty, and the unwarranted "syntactocentrism" of the idea that syntactic atoms are finished morphological products.

¹⁴ As Harley and Noyer (1999:3) note, the anti-lexicalist stance of DM is in fact incompatible even with the Government-Binding model of Chomsky 1981. By contrast, Harris (1997:454) states that "Distributed Morphology adopts a large part (though not all) of the familiar theoretical framework of the Minimalist Program;" the exception is left vague.

¹⁵ A reviewer points out, correctly, that not all elements present at Morphological Structure are necessarily overt, since DM allows terminals to be "spelt out" as zero. The objection is serious in principle, but in practice zeroes are mostly resorted to as "exponents" for single affixes within a word, typically inflectional affixes (although Halle (1997:426) recalls null stems in Nimboran); a null interpretation for an entire word (that is, for all morphological slots associated with one syntactic terminal) seems a theoretical possibility only. Note that the "Ø" in the position of Neg^o in (12) marks the lack of morphological (and therefore phonetic) interpretation, not a null exponent; in fact, the exponent for Neg^o in English is n̩. The theoretical objection is legitimate, but I think it concerns the unconstrained use of zero exponents in DM rather than the morphological approach defended in the text.

¹⁶ Judgments are also affected by the acceptability of sentential scope for a post-verbal negative element: I didn't do anything is more natural than I did nothing. Reconstruction as a non-negative indefinite would appear to be plainly unacceptable for those idioms that can express negation without a negative marker (which are not, therefore, PIs):

- (i) * Although Ken received squat from Italy, Jack did [VP e]. (American)
- (ii) * I know fuck all about linguistics, but maybe you do [VP e]. (British)

¹⁷ A reviewer contrasts (36a) with the more acceptable (i):

- (i) I know hardly anything about linguistics, but I bet she does.

Here the licenser hardly is inside the DP headed by the PI, like the operator morpheme no- in nothing, yet a reconstructed VP know something seems acceptable. All I can say about such an example is that, apparently, the presence of hardly as a distinct word makes it possible to interpret anything as part of the presupposition, and therefore liable to be copied into the ellipsis site. It is far from clear to me, however, why the focused operator may leave behind a presuppositional content in the quantified DP hardly anything but not in nothing, which interpretively includes a restriction with some descriptive content (at least [-animate, sg]).

¹⁸ For concrete examples of morphological operations triggered by syntactic contexts, see the treatment of agreement and concord in Halle and Marantz (1993:115, 135) and the analysis of Modern Greek non-active morphology proposed by Embick (1998).

¹⁹ Thanks are due to one reviewer for raising this point.

²⁰ Note that the whole procedure is post-syntactic, so that this added feature is not computed at LF according to the architecture of grammar assumed in DM.