A Study of the Auxiliary DO in English

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Jo, Jung-Kon. 2004. A Study of the Auxiliary DO in English. *SNU Working Papers in English Language and Linguistics* 3, #-#. The use of the auxiliary DO is one of the most striking features of present-day English and there has been a wide range of analyses of the auxiliary DO, but its status and distribution is where most grammarians disagree. This paper shows that there are some auxiliaries including DO to which Kim (2000)'s English Conversion Lexical Rule cannot apply.It further shows that the very fact that the auxiliary DO lacks its semantic value makes it necessary for the auxiliary DO to be understood in a different perspective from other auxiliaries when discussing the relation between negation, stress and scope. It also presents a way to deal with Sag's(2001) anti-focus property of the polarized auxiliaries by developing type constraints on stressed auxiliariesand employing the multiple inheritance hierarchy. The partition of STRESS will be added to Warner's(2000) partial inheritance hierarchy of finite auxiliaries and the approach of Minimal Recursion Semantics will be used in the course of developing some constraints on the types *stressed* and *unstressed*. The conclusion is that the multiple inheritance hierarchy coupled with the approach of minimal recursion semantics provides a clearer and more succinct account of the auxiliary DO in negation than the lexical rule. **(Seoul National University)**

Keywords: auxiliary, do, scope, stress, negation, lexical rule, multiple inheritance hierarchy, minimal recursion semantics, HPSG

1. Introduction

The Auxiliary DO plays a central role in present-day English. Though the status and distribution of the auxiliary DO is where most grammarians disagree, one obvious fact is that in nonauxiliary finite verb phrases, the negative marker *not* requires the so-called *do*-support phenomenon.

In this paper we will look at three major recent approaches to the auxiliary DO, Kim (2000)'s, Sag's(2001), and Warner's(1993, 2000) and suggest a way to derive stressed and unstressed DOs and to explain the scope relation between auxiliaries (including DO) and negation, without using lexical rules but only with appeal to the multiple inheritance hierarchy.

I will argue that there are some auxiliaries including DO to which Kim's(2000) English Negation Conversion Lexical Rule(ECLR) is not applicable.

Our analysis, which makes the best of Warner's(2000) explanatory framework of the multiple inheritance hierarchy of Head-Driven Phrase Structure Grammar without resorting to the lexical rules, will provide a clear account of the relation between negation, scope, and stress in English auxiliaries, particularly in the auxiliary DO, which the alternative analysis of English auxiliaries using lexical rules can not.

2. Basic Properties of the Auxiliary DO

Like other auxiliaries, the auxiliary DO is also subject to NICE properties as shown in (1):

(1) a. She did not hurt him./*She hurt not him.
b. Does he go? /*Goes he?
c. They don't like the job./*They liken't the job.
d.I didn't watch the game on TV, but he did./*I didn't watch the game but he watched.

There are various other properties ranging from emphasis to lack of finite forms which the auxiliary DO shares with modal auxiliaries.

On the other hand, there are some properties of the auxiliary DO that distinguish it from other auxiliaries. One is that the auxiliary DO does not take a nonfinite auxiliary as its VP complement. Thus periphrastic DO never occurs in constructions with *be* and *have* as in (2):

(2) *They didn't have left.

To sum up, the auxiliary DO is similar to other auxiliaries in many ways except that DO does not have any intrinsic meaning and its VP complement should be restricted to [AUX-]. And DO's lexical entry within the framework of HPSG will be as in (3):

(3) *do*:

3. Previous Analyses of the Auxiliary DO and the Negator NOT

3.1 Sag's Analysis

Sag (2001) assigns the feature [AUX+] not to the auxiliaries but only to the polarized auxiliaries as shown (4):

(4) a. He has gone to the store. [AUX-]
b. Kim did not/TOO/SO go to the store. [AUX+]

Sag (2001) assumes that the feature [AUX+] is only attributed to the NICE properties. Although nonauxiliary verbs are all specified as [AUX-] as in previous accounts, the lexical entries for the auxiliary verbs in his analysis are in fact unspecified for the feature AUX, and hence may take part in auxiliary and nonauxiliary constructions alike. This subtle reinterpretation and redistribution of the feature AUX holds the key to understanding the properties of the exceptional auxiliary DO. His analysis of auxiliaries is based on the fact that the specifications [AUX] are associated with auxiliary constructions, rather than what are normally called auxiliary verbs. He assumes that there is a general head-complement construction for all finite VPs in English. He proposes that this finite construction be constrained as shown in (5):

(5) *fin-vp*:

The constraints in (5) finely account for the well-known fact that the auxiliary verb DO occurs inly with the NICE orioerties. That is, DO cannot appear in the finite construction unless it is polarized as in (6):

(6) a. *Tracy did leave.
b. Tracy DID leave.
c. Tracy did TOO/SO leave.
d.Tracy did not leave.
e. Tracy didn't leave.

And DO can only appear in those constructions that are particular to auxiliary verbs (i.e. whose head daughter must be [AUX+]), such as subject-auxiliary inversions and VP ellipsis as in (7):

(7) a. Does Kim like vindaloo?
b. Boy, do I like vindaloo!
c. Kim did __.

He asserts that this set of facts is well predicted if it is simply assumed that DO, in addition to being inherently finite, is lexically specified as shown (8):

(8) *do*:

Sag's way of analyzing the auxiliary DO is innovative in that his limiting of [AUX+] only to the NICE constructions instead of to auxiliary verbs blocks the occurrence of unfocussed DO in positive declaratives. *Will*, however, will be specified as [AUX-] despite the fact that the *will* in the example is evidently used as an auxiliary though it lacks any polarity items in Sag's terms. In this light, his analysis of auxiliaries with [POL] features needs to be more refined.[1] So we will not take [POL] features as a tool of our analysis of the auxiliary DO. In this case, we will have to figure out a way to block the occurrence of unfocussed DO in positive declaratives. Instead we will employ [AUX +] for all auxiliaries.

3.2 Kim's Analysis

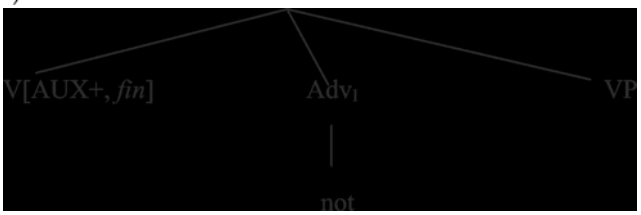
To account for a striking property of VP Ellipsis after *not* following finite auxiliaries, Kim (2000) proposes a lexical rule, as in (9):

(9) English (Negation) Conversion Lexical Rule I

1) In Sag's analysis, there are three kinds of polarized auxiliary forms;
(i *Not*-contracted forms: *haven't, won't*, etc.
(ii Forms selecting a polarized adverbial (*not, SO*, or *TOO*) as a complement, e.g. Kim will *not/SO/TOO*.
(iii Positively polarized forms, i.e. focused finite auxiliaries, e.g. Kim WILL/DID go to the store.

The Lexical Rule above, which converts an auxiliary verb taking a VP complement into a verb taking the negator *not* as an additional complement, allows the negator *not* to be the sister of the finite auxiliary as represented in (10):

(10)



The addition of the restriction [*unstressed*] to the output of the Lexical Rule is motivated by the scope relation between the head verb and its added complement *not*. As illustrated, the output semantic content of the Lexical Rule specifies that the added complement *not* takes wide scope over the head. But one thing to notice is that this semantic condition holds only when the auxiliary verb is not stressed.

The dummy DO is not different in this regard. This fact is illustrated in (11):

(11) a. He DID not come, (didn't he/*did he)?
b. He did not go to school yesterday, (did he /*didn't he)?

We assume that the stressed DID in (11a) scopes over the whole negative VP, *not come,* thus bringing the scope relation (*do*(*not*(*come*))). In (11b), *did* is unstressed and the converted complement *not* takes wide scope over *did* as predicted by Kim's Lexical Rule. But Kim's Lexical Rule can not produce DID in (11a), as the rule says nothing about stressed auxiliary verbs. Now the

need arises for an independent way to produce stressed auxiliaries such as CAN and DID. So in my proposed analysis I will propose an approach different from that taken by Kim's(2000) Lexical Rule. We will discuss the problems of his Lexical Rule later.

3.4 Warner's Analysis

As we are going to base our analysis on Warner's(2000), we introduce in more detail his analysis of English auxiliaiaries. While developing his earlier lexicalist analysis(1993) of auxiliaries, Warner(2000) suggests an entirely new analysis within a hierarchy of unifiable information in an effort to avoid using the device of lexical rules.

3.4.1 The Distribution of *Not*

In Warner's(2000) analysis, the distribution of *not* has two components. One use of *not* is that it occurs with finite auxiliaries. This use of *not* corresponds to "sentential negation"and it will be introduced as an element on the ARG-ST (and COMPS) LISTS of auxiliaries as in (12):

(12)

The negation in this structure may have either wide scope (including the semantics of the auxiliary) or narrow scope (excluding it), depending on the particular auxiliary involved: for instance, for *should* it has narrow scope, for *could* it has wide scope, and for *may* it has either, depending on the meaning

of *may*.

The other use of *not* is concerned with "constituent negation"; this *not* may precede a variety of phrases, and can be introduced as their initial modifier, forming a constituent with them as in (13). This will include the occurrences of *not* in [$_{VP}$ *not* VP], where VP is nonfinite.

(13) a. May we either [*not go*] or leave early?
b. Paul may have been [*not drinking*].

3.4.2 Accounting for Negation Scope via Minimal Recursion Semantics

Within Warner's (2000) approach the feature structure for *could* in *John could leave* will include the information in (14):

(14) A typical modal: *could* in *John could leave*

In (14), the relation of *could* in LISZT is the token identical value of KEY. The mismatch between h3 and h1 is because some other element (a modifier or quantifier) may scope between *could* and its subordinate verb. The other handle, h1, is the handle of the relation which gives the semantics of the head verb of the complement of *could*. These handles are constrained by the condition SC-ORDERS {h3≥ ⌊}.

In adjunct structures, the head is selected by the modifier by means of an attribute MOD on the modifier(Pollard and Sag, 1994). In (15), MOD's value (MOD |)NTENT | :Y | \NDLE) defines the handle value of the KEY of the syntactic head, and a condition in SC-ORDERS states that the argument of *not* either has a handle identical to that of the modified element or a handle that outscopes it, hence {h6≥ l}:

(15) *Not*

4. An Analysis in terms of the Multiple Inheritacne Hierarchy

We will raise some questions as to Kim's English Negation Conversion Lexical Rule. As a possible answer to the questions raised in the analysis of the negated DO based on Kim's Lexical Rule, I will provide an account of stressed/unstressed DO's scope relation with the negator *not* without using the lexical rules or movements-relating structures solely by relying on the organization of information within an inheritance hierarchy to make relevant generalizations.

4.1 The Problems of Lexical Rules

Now let's look again at Kim's (2000) English (Negation) Conversion Lexical Rule in (16):

(16) English (Negation) Conversion Lexical Rule

The auxiliary derived from the lexical rule is both unstressed and outscoped by the negator *not* when the Adv[1]:□□ is the negator *not*: the COTENT [3] ncludes ARG [2] meaning that *not* outscopes the input auxiliary. Theproblem is that the Lexical Rule cannot derive all the English auxiliaries: for example, unstressed *should* as in *should not leave* cannot be derived from his lexical rule as *should* takes scope over the negator *not* (obligatory(not(leave))). We might propose another lexical rule to cover unstressed auxiliaries which take scope over the negator *not*. But if we apply different lexical rules to different auxiliaries, we will lose the foundation for establishing the lexical rule whose motivation is to reduce redundancy and stipulation in the lexicon. Assuming that one of the basic properties of lexical rules is their idiosyncrasies, we might expect that there exist lexical exceptions to the scope of negation. But the best overall account would be the one which most appropriately reduces the amount of idiosyncrasy. Therefore to assume a different lexical rule for deontic modals such as *should* would be undesirable.

Now let's apply his Lexical Rule (4) to DO in *did not go to school*. The negative marker *not* is also predicted to take scope over DO as the content value of *not* takes the content value of DO of the input as its argument. But if DO is a semantically empty verb, the futility of the discussion on whether or not the negator *not* outscopes DO will impair the motivation of adding the condition [*unstressed*] to the output of the lexical rule, considering that the very motivation of his rule is to define the scope relation (thus the semantic relation) between the head verb DO and its added complement *not*. Even if DO is stressed and as a result *not* does not outscope DO, that is, *not* is outscoped by DO, here again the scope relation between the two has nothing to speak of as long as DO is no meaning carrier.

4.2 The Adoption of the Multiple Inheritance Hierarchy

Clearly we do not want all information contained in lexical entries is simply listed. One mechanism for reducing the redundancy of the lexicon is a hierarchy of types. Our motivation for employing types is to define feature appropriateness in order to avoid having to specify values for features that are irrelevant to particular classes (such as COUNT for prepositions) and to state constraints on feature structures. The concept of hierarchical types (or sorts) is essentially assigning words to specific categories and assigning those categories to superordinate categories. The constraints each type carries correspond to properties shared by all members of that type. The hierarchical inheritance further ensures that a type inherits all the constraints of its supertypes. Thus a word assigned to a type obtains all the features and constraints associated with its supertypes, in addition to its own constraints. Thanks to the organization of the lexicon in this hierarchical manner, we can now save ourselves the trouble of stating redundant information for each lexical entry. That is, the only information we need to encode in a lexical entry is the information that is not inherited from the supertypes of that lexical entry.

By the adoption of the multiple inheritance hierarchy and by the use of partitions which form dimensions of choice, we will throw a light on how English auxiliaries, in particular the auxiliary DO, interact with the negation and stress in terms of scope relation. Our analysis by means of this mechanism of the multiple inheritance hierarchy enables us to do without lexical rules in explaining the NICE properties of English auxiliaries.

4.3 The Behavior of Auxiliary DO in Negation

First of all let's look at the partial inheritance hierarchy of Warner (2000) as in (17) below, which is located on the left side of the dotted line.

(17)

We suggest adding another partition, STRESS, on the right side of the dotted line to his established partitions, NEGATION and INVERSION, and will see how this additional partition successfully deals with the auxiliary DO's scope relation with regard to the negator *not*, as our suggestion develops.

Warner's(2000) partition NEG FORM has its subtypes, *wide neg scope* and *narrow neg scope*. But his partition does not show how *wide neg scope* and *narrow neg scope* are related to the stress condition on the corresponding auxiliary. In addition, his partition has no room to integrate into the multiple inheritance hierarchy, auxiliaries which are stressed but not negated, that is, such auxiliaries as are involved in constituent negation as in (18):

(18) He COULD not leave.

However our added partition STRESS designed to make clear the interrelationships between negation, scope, and stress paves the way for mapping the stress condition of the auxiliary, negated or not, into its scope relation.

Now in order to make the buildup of the partition STRESS effective, we need to set up a boolean-valued feature STRESS, i.e., STRESS + (abbreviated STR+) vs. STRESS- (STR-), defining it as one of the head features whose value

the mother will inherit and linking the syntactic head feature value to the semantic feature value of CONTENT by means of the constraints of SC-ORDERS (for the definition of SC-ORDERS see below). This linkage between the syntactic feature STRESS and the semantic feature SC-ORDERS will prove to serve to clarify the scope relations between the auxiliary and the negator *not*.

We also need to develop some constraints on the types *stressed* and *unstressed* which belong to the partition of STRESS. To do that, we make the best use of the approach of Minimal Recursion Semantics (MRS) introduced by Ann Copestake, Dan Flickinger, and Ivan A. Sag (1999).

Let's give rough definitions on some terms:

. ***EP*** (elementary predication) is a single relation with its associated arguments (for instance, *beyond* (*x, y*)). In general an EP will correspond to a single lexeme.

. ***Handles*** (h1, h2, etc.) are tags which match up scopal argument slots with the EPs. They enable us to grab hold of EPs.

. ***Handle constraints*** or ***hcons***(which we will call SC-ORDERS in our analysis) contain a bag of constraints on the outscopes partial order.

On our approach CONTENT is specified for attributes which include LISZT, KEY, NEG and SC-ORDERS. The value of LISZT is the relevant list of relations; that of KEY is a particularly designed relation within LISZT: normally it is a relation which a phrase shares with its head; in NEGATION type *negated* contains CONTENT | NEG <[*not_rel*]>; and the value of SC-ORDERS is a set of constraints on the outscopes order of handles (h1, h2, etc.).

In the partition of STRESS, the type *stressed* in (19) belowcontains its syntactic STRESS+ value on the relevant auxiliary's head, and its semantic CONTENT value is somehow reflected in the constraint on the handle values, though not explicitly shown as a feature in the CONTENT bracket. If an auxiliary gets stressed, the auxiliary should outscope the negator *not* which forms a constituent along with the following VP. We assume that the stressed auxiliary will syntactically include the semantics of the following [$_{VP}$ *not* VP] and the higher VP headed by the stressed auxiliary will be like this:

(19) 

What the type *stressed* stipulates is that the second member of the ARG-ST list of the stressed finite auxiliary verb cannot be polarized adverbials such as *not*, SO, and TOO:

(20) a. He can not go to school.
b. *He [CAN [not] [go to school]].
c. He [CAN [$_{VP}$ not go to school]].
d.*He [DID [not] [go to school]].
e. He [DID [$_{VP}$ not go to school]].
f. He DID go to school.

When the auxiliary verb is unstressed, the second member of its ARG-ST list can be the negator *not* as in (20a), forming sentential negation. In contrast, when the auxiliary verb is stressed, *not* cannot occur in sentential negation as in (20b) and (20d) but can occur only in constituent negation as in (20c) and (20e). Of course stressed auxiliaries may occur without the negator *not* as in (20f). So the constraints on the type *stressed* forbid stressed auxiliaries to occur in sentential negation. But neither Kim's (2000) Lexical Rule nor Warner's (2000) inheritance hierarchy says anything about this stressed auxiliary. Therefore our analysis can be claimed to be an improvement on their analyses.

When the auxiliary gets unstressed, there are two possibilities of scope relation between the auxiliary and the negator *not*. On the one hand, when the auxiliary is both unstressed and outscoped by the negator *not* as in *could not*, we simply add to SC-ORDERS the constraint h6≥ ? as shown (21), where h2 is the handle value of the auxiliary and h5 is the handle value of the *not* relation. In case there exists a quantifier or modifier which outscopes between the auxiliary and the negator *not*, we state like h6≥ ? instead of h5 ≥ ?. All finite auxiliaries both unstressed and outscoped by *not* will inherit from both the types *unstressed* and *wide scope*.

(21) *unstressed* and *wide neg scope*:

On the other hand, when the auxiliary gets unstressed and outscopes the negator *not* as in *should not*, we add to SC-ORDERS the constraint h2≥ ; as shown (22):

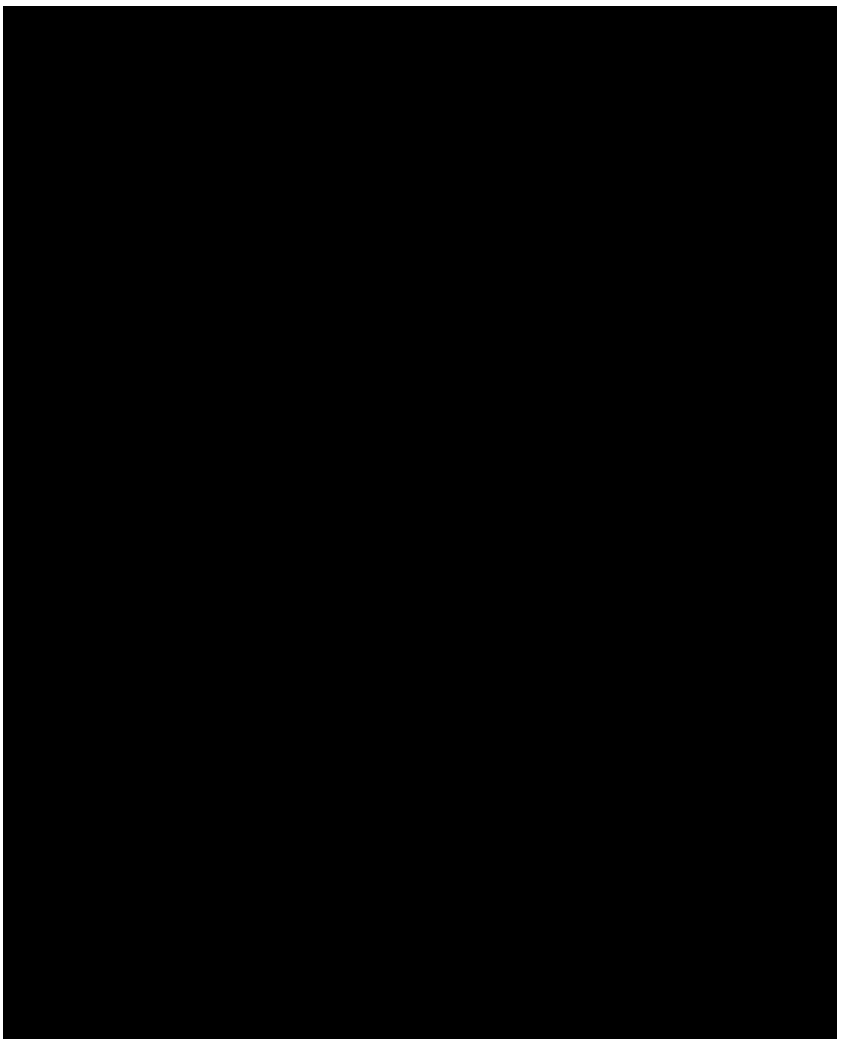
(22) *unstressed* and *narrow neg scope*:

At this point we'd like to raise a question of whether unstressed DO in *I did not see it* inherit from the types *unstressed* and *wide neg scope* of (21) or from the types *unstressed* and *narrow neg scope* of (22). Let's assume unstressed DO inherits from the type *unstressed and narrow neg scope* of (22). As there is no semantics in DO, h2 will be identified with h1, so h2=h1. In turn the SC-ORDER h2≥ ; can be replaced by h1≥ ;, which means VP[h1] outscopes the negator *not* [h6], which is an evident contradiction. But if we

assume that unstressed DO belongs to the type *unstressed* and *wide neg scope* of (21), the SC-ORDERS will cause no contradiction. If h2=h1, the scope order h6≥ ? can be replaced by h6≥ l, which causes no contradiction as the constraint h6≥ l is already contained in the lexical entry of the negator *not*. Neither does the constraint h2=h1 contradict the constraint h2≥ l. So we tentatively conclude that unstressed DO in *I didn't see it* belongs to the *unstressed* and *wide neg scope* of (21).

Given the constraints on the types *stressed* and *unstressed*, we can add another partition STRESS to Warner's (2000) as in (23) below:

(23) Part of the inheritance hierarchy of finite auxiliaries



Any member of type *negated* must inherit from both of the NEG FORM and NEG SCOPE, and so must any member of INVERSION and STRESS inherit from types *inverted*/*not inverted* and *stressed*/*unstressed* respectively. But for expository convenience, we leave the partition INVERSION out of account in this discussion.[2)]

In inverted yes-no question the normal scope of sentential negation with

not/-n't is wide. But in a question like *Did nobody come?*, the scope relation with the auxiliary DO and the negation is more likey to be complex than is seen. This seems to be one more area to work on further. We leave this issue for further study. Once negation-type sorts and stress-type sorts are declared, together these define a large number of phrase types through the multiple inheritance network that the sort classification defines. For example, the respective subsorts of type *negated* cross-classify the subsorts of the partition STRESS: a sentence headed by a negated, unstressed, finite auxiliary outscoped by *not* will inherit from all the types of *not arg, wide neg scope* and *unstressed*, so rightly predicting such sentences as *I could not go* and *I did not see it*; a sentence headed by a negated, unstressed, finite auxiliary outscoping *not* will inherit from all the types of *not arg, narrow neg scope* and *unstressed*, rightly predicting a sentence like *You should not smoke*; a sentence headed by the stressed auxiliary followed by [$_{VP}$ *not* VP] will inherit from both types *not negated* and *stressed*, predicting sentences like *I COULD not leave* and *I DID not go to school* as expected; and a sentence headed by a negated, contracted, stressed, finite auxiliary will inherit from *n't form, stressed*, and either *neg scope*, predicting sentences like I COULDn't leave (*wide neg scope*) and You SHOULDn't do it (*narrow neg scope*).

As we have seen in section 4.1, we cannot derive from Kim's (2000) Conversion Lexical Rule a sentence as in (24):

(24) He should not have been drinking, should he? -- Narrow scope negation: *obligatory*(*not*)

But in our analysis by adopting the multiple inheritance of type hierarchy, say, by cross-classifying type *negated* and type *unstressed*, we successfully manage to draw such a sentence as in (24).

Another advantage to our analysis using the multiple inheritance hierarchy is that it can respond to Sag's (2001) claim that auxiliaries selecting polarized adverbials such as *not*, SO and TOO should be unstressed. What the partial inheritance hierarchy (23) fails to explain is that stressed auxiliaries cannot cooccur with SO and TOO. Somehow this fact should be dealt with in relation to the type constraint *stressed* in (19), which means that

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2) In inverted yes-no question the normal scope of sentential negation with *not/-n't* is wide. But in a question like *Did nobody come?*, the scope relation with the auxiliary DO and the negation is more likey to be complex than is seen. This seems to be one more area to work on further. We leave this issue for further study.

(23) still needs to be more finely grained. As stressed auxiliaries do not inherit from type *not arg*, possibilities do not exist that the polarized auxiliaries such as those negated by *not* will be focussed.

Neither do we have to enrich the lexical rule to cover such an unstressed auxiliary as *should* in *should not have been drinking* nor do we feel it necessary to accept the lexical idiosyncrasy in order to admit *must* in *must not drink* into the lexical rule. The only remaining question is whether DO, in all probability, is sensitive to the scope distinction with respect to the negation. For now we assume unstressed DO is regarded as outscoped by the negator *not*, inheriting from relevant types, *not arg*, *wide neg scope*, and *unstressed*. One remaining property of the auxiliary DO we have not touched on is that if DO is positive, then DO needs to be stressed. As for the unstressed DO, there needs to be found a way to block it from occurring in the positive declaratives and to formalize the blockade with the framework of HPSG. But for now we leave it for further study in the future. In Sag(2001), the *fin-vp* construction requires matching values for AUX and POL. Thus the verbal head should be [AUX-] unless the head daughter is polarized. This allows DO to head such a construction only if it is polarized. I feel more or less sympathetic to his treatment of the puzzling distribution of DO. But I still find it difficult to fully side with his approach, as I commented in section 3.2. See Warner(1993) and Kim(2000) for DO's distribution in terms of 'tense realization condition'.

The application of the multiple inheritance hierarchy to our analysis predicts the following combination of type inheritance with regard to the auxiliary DO.

not arg + *wide scope* + *unstressed*	: He did not work hard, did he? not(did(...))
-n't form+ *wide scope* + *unstressed*	: He didn't work hard, did he? not(did(...))
not negated + *stressed*	: He DID not take your advice. did(not(...))
not negated + *stressed*	: He DID take your advice. (did(take))

This multiple inheritance hierarchy makes it possible to provide all the possible occurrences of auxiliaries with respect to negation, scope and stress.

4.4. The Consequence of the Proposed Analysis

Our analysis using the multiple inheritance hierarchy permits *should* to inherit from both types *narrow neg scope* and *unstressed*, gaining explanatory adequacy, much more to derive all other auxiliaries, stressed or not, from the multiple inheritance hierarchy. Our analysis does not have to assume lexical idiosyncracies as far as deontic auxiliaries are concerned. In addition, our analysis finely allows the auxiliary DO to interact with the negation and stress. Besides, our analysis covers what Sag (2001) points out as the antifocus property of the polarized auxiliaries. Finally, though we make the best of Warner's(2000) approach as an analytical tool, we at last manage to incorporate the relation in English auxiliaries between stress and scope into the more enriched partition than he originally designed, which is a sure evidence of further improvements on his analysis. These and other advantages will lend support to our analysis.

5. Conclusion

The status and distribution of the auxiliary DO is where most grammarians disagree. We have seen that the auxiliary verb DO is similar to other auxiliaries in many respects. But its distribution is far more restricted than other auxiliariesand one more peculiarity about the auxiliary DO is its intrinsic lack of meaning. I have argued that Kim's(2000) English (Negation) Conversion Lexical Rule cannot be generalized because of its limited applicability. Thereby I suggested discarding the lexical rule approach in favor of the multiple inheritance hierarchy approach. Kim's analysis of scope facts of negation in relation to stressed/unstressed DO is difficult to justify because his own analysis of DO as a meaingless dummy operator cannot do justice to the debate over the scope which itself is a semantic condition. We cannot possibly debate over the semantic condition on the element which has no intrinsic meaning. I also presented a way of integrating the anti-focussed constraint of the adverb selecting polarized auxiliaries by using an inheritance of sort hierarchy instead of the lexical rules. Although our analysis is open to doubt in many ways, it may, nevertheless, provide an opportunity to cast doubt on the established analysis of DO and pave the way for further study.

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