Collocations in the Minimalist Program

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1. Introduction

This paper grew out of my work with two research projects in which I have been involved. One of them is Concordance of the Icelandic Family Sagas (*Orðstöðulykill Íslendinga sagna*, see Rögnvaldsson et al. 1992); the other is NORDLEX, which aims at describing and comparing the basic features of the lexicon in the Scandinavian languages. The third basic element of the paper, which inspired my speculations concerning the other two, is Chomsky's (1992) *Minimalist Program*. I will discuss how recurring combinations of words, so-called **collocations**, are best handled in generative grammar. I will argue that `classical' generative theory has no satisfactory means of dealing with such patterns, but they can be handled more easily within the Minimalist Program of Chomsky (1992).

The paper is divided into two main sections. In the first section, I quote a definition of collocations, and point out that even though such combinations have been extensively studied in computational linguistics, they have been almost entirely neglected in generative grammar. Then, I present various types of word order patterns from Old Icelandic texts, and argue that the frequency and regularity of such patterns shows that they cannot be accidental, but must instead represent speakers' knowledge of the language. Furthermore, I argue that they **cannot** be accounted for by `classical' generative theory, given the traditional view of the relation between syntax and lexicon.

In section two, I point out that Chomsky's (1992) new Minimalist Program presents a new conception of lexical insertion that differs radically from the traditional analysis, where words were inserted into ready-made structures. Then I argue that this new conception opens up new possibilities of treating collocations within the generative framework, by building sub-trees in the lexicon and adding them as a whole to the main tree that now is assumed to be built up gradually. Furthermore, I point out that this is similar to current approaches to word-formation, such as those developed by Baker (1988) and Hale and Keyser (1991, 1992).

It must be emphasized that this is a working paper which reports on a work in progress. No definite results are presented here; for the most part, the paper consists of speculations. However, I think the subject matter is important, and it must somehow be incorporated into generative theory. Therefore, I hope these speculations are justified.

2. Collocations

2.1 Defining collocations

Since the beginning of generative grammar (Chomsky 1957), its main objects of study have been the basic elements of the lexicon, their structure and relations, on one hand, and syntactic constructions, i.e., sentences, on the other. In Chomsky (1981:5), it is assumed that `the subcomponents of the rule system' are the following:

(1) (i)   lexicon
   (ii)   syntax
      (a) categorial component
      (b) transformational component
   (iii) PF-component
   (iv) LF-component

Systems (i) and (iia) constitute the base. Base rules generate D-structures (deep structures) through insertion of lexical items into structures generated by (iia), in accordance with their feature structure. These are mapped to S-structure by the rule Move-α, leaving traces coindexed with their antecedents; this rule constitutes the transformational component (iib), and may also appear in the PF- and LF-components. Thus the syntax generates S-structures which are assigned PF- and LF-representations by components (iii) and (iv) of (1), respectively. (Chomsky 1981:5.)

For the last 20 years at least (since Chomsky 1970), most generative linguists have assumed that all irregularities and idiosyncracies are stored in the lexicon, whereas the syntax is completely regular. The meaning of sentences is assumed to be compositional, i.e. derivable from the meaning of the individual words plus some interpretation assigned to the structure. It has of course been realized that certain sentences - idioms and the like - do not in fact have compositional meaning; the individual words do not retain their `original' meaning. Some examples are given in (2):

(2) a. keep tabs on someone
   b. pay heed to something
   c. kick the bucket

Thus, we must assume that such phrases and/or sentences are learnt as a whole and stored in the lexicon, in much the same manner as individual words. Such `exceptions' are relatively few, and it is usually assumed that they do not present a serious challenge to the main theory.

It is clear, of course, that some kind of cooccurrence restrictions will have to be built in the lexicon. Chomsky (1965:101) illustrates this by means of the following sentence:

(3) He decided on the boat.

Chomsky points out that this sentence can either mean `he chose the boat' or `he made his decision while on the boat'. In the latter case, the phrase *on the boat* is a place adverbial, modifying the entire sentence, whereas in the former case, the connection between the verb and the preposition is much closer.

> In these close constructions, the choice of Particle is often narrowed or even uniquely constrained by the choice of Verb (for example, "argue with *X* about *Y*"). We must therefore indicate in the lexical entry for such words as *decide*, *argue*, that they take certain particles and not others, as, in fact, is commonly done in dictionaries. This information can be presented in various ways. (Chomsky 1965:191.)

After the words have been inserted into the deep structure phrase-marker, we need some sort of a filter or checking mechanism to scan the structure and ensure that all coocurrence restrictions or subcategorization features are respected.

Another type of cooccurrence restrictions is exhibited by so-called **selectional restrictions** (Chomsky 1965), which are semantically based. We can argue that the fact that *eat* takes an animate subject, *drink* takes some kind of liquid as an object, etc., follows from the meaning of these verbs, and hence speakers do not have to learn this separately. Therefore, such selectional restrictions come at no extra cost; and if they are violated, the sentences are judged ungrammatical or just plain nonsense.

Thus, the usual assumption has been that the `classical' generative model can account for all of these cooccurrence restrictions (idioms, subcategorization, and selectional restrictions). But there is yet another type of word combinations that is much more troublesome for this model. Interestingly (but perhaps not surprisingly), that type is almost never mentioned in works written in the generative framework, even though it has been an important research topic in lexicology and in computational linguistics, especially in works on machine translation. What I have in mind are the so-called **collocations**. They can be defined as in (4), taken from Magnúsdóttir (1990:204):[1]

(4) Collocations are a string of words that co-occur under restrictions not definable by syntax nor selectional restrictions alone. These restrictions can be referred to as lexical restrictions since the selection of the lexical unit is not conceptual, thus synonyms cannot replace the collocate. The meaning of a collocation is compositional whereas the meaning of an idiom is not.

At first glance, one would perhaps think that the problem posed by collocations is not different from idioms, subcategorization, and selectional restrictions, which we will have to

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[1] As Magnúsdóttir (1988:167) points out, definitions of collocations are usually rather vague. In that paper, Magnúsdóttir divides collocations into two categories; **syntactic collocations**, which would fall under subcategorization, and **lexical-semantic collocations**, which are the ones I will be talking about. Her definition in (4) suits the latter type much better, even though her subsequent discussion in the text indicates that the definition is also meant to include the former type (Magnúsdóttir 1990:205).

deal with anyway, as pointed out above. But collocations are different. There, the issue of grammaticality is not at stake; the sentences do not become ungrammatical although other combinations of adjectives and adverbs, for instance, are used instead. However, the speaker somehow knows which words **usually** go together. As Magnúsdóttir (1990:205) points out, `A multi-word idiom violates selectional restrictions due to metaphorical use of words whereas a collocation will not. [...] Collocations are `permitted patterns' in contrast to idioms that are often `prohibited patterns' within the selectional restriction frame'. Thus, collocations display idiosyncratic tendencies, but not obligatory selections.

2.2 Collocations in Old Icelandic

To illustrate the problem posed by collocations, let me take examples from Old Icelandic. In the preparation of a lemmatized KWIC-concordance of the Icelandic Family Sagas (Rögnvaldsson et al. 1992), it has become clear that the Old Icelandic texts are unusually rich of recurring word order combinations. This is perhaps not so apparent when one reads the texts, but it can easily be detected when all the examples of each word are listed one after another, as in the following examples (from Rögnvaldsson et al. 1992), which show all the occurrences of the manner adverbs *alldjarflega* `very boldly' (in (5a)) and *alldrengilega* `very bravely' (in (5b)) in the Sagas.

(5) a. *alldjarflega*
+ Óspakur eggjaði sína menn til varnar og *barðist* sjálfur **alldjarflega**.
+ Þórir *barðist* **alldjarflega** og féll á skipi sínu með mikilli hreysti.
+ Þeir fundust við túngarð í Rauðsdal og *börðust* **alldjarflega** því að Rauður var frækn maður.
+ Þá kom Gunnar að og *barðist* **alldjarflega**.
+ Steingrímur *barðist* **alldjarflega** og varð fjögurra manna bani.
+ Síðan ganga þeir saman og *berjast* **alldjarflega**.
+ Jarl tók merkið af stönginni og lét koma milli klæða sér og *barðist* þá **alldjarflega**.
- Víkingar lögðu að **alldjarflega** og þóttu hinir komnir í stilli.

b. *alldrengilega*
+ Voru þeir Þórir hinir áköfustu en þeir Óspakur *vörðust* **alldrengilega**.
+ *Varðist* Þorbjörn þaðan **alldrengilega** með stokkinum því að vopn hans höfðu verið eftir í stofunni.
+ Þorgils *varðist* **alldrengilega** en féll þó fyrir þeim Gunnari og Grími.
+ Nú koma þeir Grís að og sækja að þeim en þeir *verjast* **alldrengilega**.
+ Kom þá Úlfur og sóttu þeir báðir að Eitli en hann *varðist* **alldrengilega**.
+ *Varði* Þorgeir stafninn **alldrengilega**.
- Nú er þar til að taka er Hyrningur Hallsson kom heim og segir **alldrengilega** frá för þeirra Þóris.
- Kolfinnur hjó hart og tíðum og sótti **alldrengilega**.

One does not have to look at these examples for a long time to notice that the distribution of these two adverbs is clearly different; the former almost always (in 7 out of 8 examples, those marked +) modifies the verb *berjast* `fight', whereas the latter almost always (in 6 out of 8 examples) modifies the verb *verja(st)* `defend'. Notice, however, that the examples are

very few, compared to the length of the text. The Sagas contain almost 900,000 running words (more than 2,000 pages in the edition on which the concordance is built). Hence, it is rather unlikely that one would notice this pattern simply by reading the text; but a concordance reveals a pattern, which can hardly be due to coincidence.

Such regularities are numerous. Let me just name a few types that I have come across in the Sagas:

(6) a. A certain verb X is usually modified by a certain adverb Y.
    b. A certain adverb X usually modifies a certain verb Y (cf. (5)).
    c. A certain adjective X is usually modified by a certain adverb Y.
    d. A certain adverb X usually modifies a certain adjective Y.
    e. A certain adjective X usually modifies or is predicated of a certain noun Y.
    f. A certain noun X usually takes a certain modifying or predicative adjective Y.
    g. A certain verb X usually takes a certain object Y.
    h. A certain noun X usually occurs as the object of a certain verb Y.
    i. A certain adjective X usually occurs coordinated with another adjective Y.

I use the word `usually', because often, and almost always, there are some exceptions, but the rule is nevertheless obvious. It must also be noted that in most cases the implication is not bidirectional. In (6b), for instance, it is perfectly possible that the verb Y also occurs with other adverbs than X; the point is that X implies Y, but not vice versa. The verbs *berjast* and *verja(st),* for instance, are only modified by the adverbs *alldjarflega* and *alldrengilega*, respectively, in a small subset of the sentences where these verbs occur.

Such regularities clearly fall under the definition of collocations quoted above. Now, one could raise the point that the language of the Sagas does not show the `real' Old Icelandic; what is preserved in the manuscripts is a highly constrained literary language, which might be very different from the actual spoken language at the time when these manuscripts were written. This is possible, of course, and no doubt true to a certain extent. But I do not think that this makes much difference. The people that wrote the manuscripts must have had command of this language, so that they must somehow have memorized not only individual words, but many types of word combinations.

Furthermore, none of these characteristics are confined to Old Icelandic, even though they are especially obvious there; most or all of them can also be found in Modern Icelandic, to a lesser degree, of course; and probably in most or all languages. It seems extremely unlikely that such regularities can all be attributed to coincidence. They must bear witness to something that speakers (unconsciously) know about the language they speak.

2.3 Generative treatments of collocations

It seems to me that `classical' generative grammar does not have any apparatus to deal with collocations. Presumably, the information that a certain adjective usually takes a certain modifying adverb will have to be stored in the lexical entry of the adjective, since it does

not follow from its meaning; thus, this will be similar to subcategorization information. Since the meaning of collocations is compositional, we do not have to store the composition as an independent entry in the lexicon, like idioms, but only the information that it exists. In a language rich of collocations, such as Old Icelandic, this will mean a tremendous amount of `cross-reference' in the lexicon. Furthermore, this would give collocations the same status in the lexicon as subcategorization features; but we just argued that they are different.

Even if we do this, it is not clear how this information can be projected to the syntax. It is assumed in `classical' generative grammar that words are taken from the lexicon and inserted into ready-made sentence structures. If we take an adjective which is usually modified by a certain adverb and insert it into an adjective slot in the structure, we can thus assume that the word brings with it all the information in its lexical entry; i.a., the information that it is usually modified by this particular adverb. But the adverb is not a part of the lexical entry of the adjective; it is inserted separately in the structure. Hence, some sort of checking will have to take place in the syntax after lexical insertion has been finished, in order to ensure that the right collocations actually do occur.

As pointed out above, some such filtering or checking is needed anyway to ensure that subcategorization and selectional restrictions are not violated. But in dealing with collocations, such a mechanism is unsatisfactory, as far as I can see. Remember that collocations are usually not obligatory; i.e., even though a certain adjective **usually** takes a certain modifying adverb, for instance, it **can** also take other adverbs without violating any grammatical principles, provided that the meaning of these adverbs matches that of the adjective. This means that even though the lexical entry of the adjective carries the information that it usually takes a certain adverb, and this information is preserved in the tree, nothing can be done to ensure that the adjective actually gets this adverb in the sentence. Thus, neither subcategorization nor selectional restrictions seem to be the appropriate apparatus for describing these regularities.

One possibility would be to say that the adjective and the adverb are actually stored as one entry in the lexicon, and inserted as a whole into the structure. By this, we are in effect claiming that there is no difference between collocations and idioms - or even between collocations and individual words - and we might expect that collocations were obligatory, did not have compositional meaning, etc.

Another possibility is to say that the lexical insertion rule which inserts the adverb into the tree has access to the information in the lexical entry of the adjective. Then we would have to assume that the adjective is inserted prior to the insertion of the adverb; but actually, it can also be the case that a certain adverb usually occurs with a certain adjective, but this adjective also takes many other adverbs. In this case, it would seem that the adverb somehow selects the adjective, rather than vice versa. Thus, both possibilities would present serious theoretical difficulties.

Thus, it seems that `classical' generative grammar (be it ST, EST, REST, GB, PP, or whatever) has no satisfactory means of accounting for collocations. Now, it is perfectly natural to respond to this by saying: So what? Why should it? After all, linguistic theory is a theory of competence, not performance; shouldn't collocations count as performance features?

If the purpose of linguistic theory is to account for all and only the grammatical sentences of human languages, then we might be justified in claiming that collocations lie outside its scope. If, on the other hand, one of the goals of linguistic theory is to account for speakers' knowledge about their language, the answer might be different; then we must have some way of accounting for these regularities.

Furthermore, I do not think that it is feasible to attribute the cooccurrence restrictions which I have called collocations to performance. There are various reasons for that, the most important being that there do not seem to be deep-rooted differences between collocations and combinations due to subcategorization; this seems to be a continuum, where the subcategorized words are obligatory, some of the collocations almost obligatory, and others more or less optional. Thus, any border-line we might try to draw will always be arbitrarily placed.

3. Collocations in the Minimalist Program

3.1 Lexical insertion in the Minimalist Program

In this section, I will argue that Chomsky's (1992) proposals in the Minimalist Program may make it much easier to account for such features. It must be kept in mind, of course, that the Minimalist Program is a new line of research, which needs to be developed further before it can be seen whether it can actually be justified. At present, there are very many aspects of this framework that seem to be open to debate. Among them is the nature of the lexicon and the processes that apply within the lexicon; as far as I know, almost nothing has been written about these aspects.

For our purposes, the most important innovation in the Minimalist Program is that a separate level of D-structure as an interface between the lexicon and the computational system, is no longer assumed. In earlier approaches, `all items that function at LF are drawn from the lexicon before computation proceeds, and presented in the X-bar format' (Chomsky 1992:27). Thus, instead of inserting words from the lexicon into slots in a ready-made tree structure, the tree-structure is built up gradually, as the words are inserted. Chomsky (1992:30-31) describes this in the following manner:

The computational system selects an item X from the lexicon and projects it to an X-bar structure of one of the forms (18), where $X = X^0 = [_X X]$:

(18) (i) X
     (ii)
     (iii) $[_{X''} [_{X'} X]]$
[...]
    We now adopt (more or less) the assumptions of *LSLT*, with a single generalized transformation GT that takes a phrase-marker K^1 and inserts it in a designated empty position Ø in a phrase-marker K, forming the new phrase-marker K*, which satisfies X-

bar theory. Computation proceeds in parallel, selecting from the lexicon freely at any point. At each point in the derivation, then, we have a structure Σ, which we may think of as a set of phrase markers. At any point, we may apply the operation SPELL-OUT, which switches to the PF component. [...]

After SPELL-OUT, the computational process continues, with the sole constraint that it has no further access to the lexicon [...].

GT is a substitution operation. It targets K and substitutes K^1 for $\emptyset$ in K. But $\emptyset$ is not drawn from the lexicon; therefore it must have been inserted by GT itself. GT, then, targets K, adds $\emptyset$, and substitutes K^1 for $\emptyset$, forming K*, which must satisfy X-bar theory.

This means that lexical insertion no longer occurs at any particular point in the derivation, and no distinction is longer made between structure-building and lexical insertion. I think this opens up new possibilities of treating collocations in the grammar; remember that in the pre-minimalist approaches, it was not clear how the mapping between the lexicon and the syntax could be accounted for. But with the abolishment of D-structure, things look different.

As mentioned above, the main difficulties concerning collocations resulted from the fact that in pre-minimalist models, each word had to be inserted separately into an appropriate X^0-slot in the structure. Therefore, all cooccurrence restrictions had to be checked in the syntax, and since collocations are usually not obligatory, it is not obvious how such checking can actually ensure that we get the preferred collocations.

This could be solved by generating the collocations in the lexicon and inserting them as a whole into the structure. This would be analogous to standard analyses of (many types of) compound and derived words, which are assumed to be formed in the lexicon from basic entities of that component (nonderived words or stems and affixes), prior to the insertion into the syntactic structure. However, there is one basic difference between words and collocations; the former are X^0-categories and are inserted into X^0-slots in the structure, whereas the structure of collocations is more hierarchical; presumably, they usually make up maximal projections (or sometimes possibly one-bar constructions). Therefore, they cannot be inserted into one (X^0) slot in the structure under standard assumptions.

But the gradual structure-building assumed in the Minimalist Program opens up the possibility of generating subtrees in the lexicon and adding them as a whole to the main tree we are building up. This seems to be entirely consistent with Chomsky's description above, although he does not mention collocations, of course. Remember that the relations between the words in a collocation are of course strictly local. Hence, we could generate, say, an AP with an adjective and a modifying adverb in the lexicon, and then add this AP as a whole to the tree, instead of taking the adjective and the adverb and inserting them separately into empty X^0-slots in a ready-made structure.

Thus, the derivation would be like this: A head word - an adjective, for instance -is selected from the lexicon. In the lexical entry of this word, there is information on the `favorite' modifying adverb of this adjective. We may choose to disregard this information, and add the adjective instantly to the existing partial tree which is being built. But we may

also - and preferably - select this adverb and add it to the adjective, thus forming an AP in the lexicon. The AP is then added as a whole to the main tree, and computation proceeds with the next selection from the lexicon.[2]

3.2 Collocations and word-formation

As far as I can see, the approach suggested in the preceding section is a natural extension of many recent theories of word-formation and syntactic processes in the lexicon, such as Hale and Keyser's (1991, 1992) analysis of the formation of denominal verbs. They argue, for instance, that the verb *shelve* is derived from the noun *shelf* in the following manner (Hale and Keyser 1991:5):

> The surface form of the verb is derived by three applications of head movement, the first of which incorporates the lower N (*shelf*) into the P which governs it. The compound so formed is then moved into the verb which governs it, there forming a compound which makes the final move to incorporate into the matrix verb.

Hale and Keyser argue that this process is lexical, in the sense that it occurs in the lexicon; but all the operations are syntactic in nature, and obey syntactic principles, such as the Head Movement Constraint (Travis 1984).[3] There are, of course, important differences between such word-internal processes and collocations; but the crucial point is that both can be accounted for by assuming that some amount of tree-building is carried out in the lexicon, prior to lexical insertion. Several differences between collocations and word-forming processes (for instance, the fact that the meaning of collocations is usually compositional whereas the meaning of word is often not) can presumably be related to the fact that the word-forming processes involve incorporation (into abstract verbs), where the forming of collocations does not.

If we accept this, the problem of accounting for which collocations exist boils down to another problem that we will have to deal with anyway; that some words do exist but others that are perfectly possible do not. This was usually explained by assuming that words are stored in the lexicon, whereas word combinations (sentences) are not; even though it was recognized that new words could be coined in the lexicon, it was usually claimed that once they had been coined, they had to be stored as a whole in the lexicon; they were not, like sentences, coined when they were needed and then coined again if they were needed again (cf., for instance, Aronoff 1976).

But if the word-formation rules are really syntactic in nature, as both Baker (1988) and Hale and Keyser (1991, 1992) assume, then we are in fact already saying that even syntactic

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[2] As Chomsky alludes to (1992:29), this approach also bears considerable similarities to `Tree Adjoining Grammar' developed at the University of Pennsylvania (cf. for instance Joshi 1987; Frank and Kroch 1993).

[3] Chomsky (1992:64, fn. 18) mentions that he does not believe that the distinctions Hale and Keyser (1991) make between lexical operations as in (7) and true syntactic operations are necessary, although he does not discuss this further.

processes can be idiosyncratic, to some extent at least. Thus, it is not the nature of the processes themselves that decides whether the constructions they form can have idiosyncratic properties (non-compositional meaning, phonological irregularities, etc.); the deciding factor is whether the process applies prior to lexical insertion or not. If we assume that collocations are formed in the lexicon, and added as a whole to the tree, it follows that we can account for their existence without postulating any extra machinery.

This can be related to the altered status of lexical insertion in the Minimalist Program. Until recently, it was usually assumed, in accordance with the lexicalist hypothesis, that processes below the word level (i.e. word-internal) are lexical, whereas processes manipulating whole words are syntactic. But if the operations in the syntax and in the lexicon are essentially the same, it is unlikely that we can use the word to distinguish between these components. Instead, we will have to say that lexical insertion draws the border-line between syntax and lexicon.

But in the Minimalist Program, lexical insertion does not occur at any particular point in the derivation, as pointed out above; instead, items can be freely selected from the lexicon at any time, up to the application of SPELL-OUT. After that, we have no longer any access to the lexicon. Another important innovation in the Minimalist Program is that it is no longer assumed that tense and agreement morphemes are generated as heads of the corresponding functional categories (TP and AgrP, respectively). Instead, it is now assumed that all words are inserted into the tree-structure in their fully inflected form, and some sort of feature-checking in the syntax ensures the correct matching of all morphological features.

Therefore, I do not think that the traditional distinction between these two components is justified any longer; it is more fruitful to think of them as a continuum (cf. also Sproat 1985, for instance). If this can be maintained, it means that we cannot say any longer that all irregularities and idiosyncracies belong to the lexicon, but the syntax is completely regular; we cannot attribute all idiosyncracies to the `passive' lexicon. But I think that this is, in fact, a welcome result. It is clear that some word-formation processes, which have traditionally been considered lexical, are completely regular, in the sense that there are no `gaps' in the paradigm, and the meaning of the words is entirely predictable; their semantics is compositional. It has been claimed that the English suffix *-ness* belongs in this class, and Aronoff (1976) claims that since this process is completely regular, word with this affix are not stored in the lexicon.

On the other hand, it is also clear that **some** sentences are learnt by heart, and can have idiosyncratic meaning, such as idioms. As mentioned above, such sentences are presumably so few that they do not pose serious challenge to standard views; but I think the collocations discussed above are far more problematic, and they cannot be satisfactorily accounted for under standard views.

This is essentially the position taken by Di Sciullo and Williams (1987). They reject the view that `productivity' vs. `listedness' are defining properties of syntactic vs. morpholgical constructions, respectively; and they present the following `hierarchy of listedness' (1987:14):[4]

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[4] This does not mean that Di Sciullo and Williams (1987) claim that there is no distinction between words and phrases. On the contrary; they stress that such a distinction can and must be drawn (1987:19).

(7) All the morphemes are listed.
     `Most' of the words are listed.
     Many of the compounds are listed.
     Some of the phrases are listed.
     Four or five of the sentences are listed.

So, my claim is that the Minimalist Program is clearly superior to pre-minimalist formulations of generative grammar in accounting for the existence of recurring collocations. It is obvious, of course, that the analysis above is very sketchy; however, I believe that it is at least worth the try to pursue this line of research further.

4. Conclusion

Much of what is proposed here is obviously speculative and needs to be worked out, and may turn out to be completely misleading. However, my aim is of course not to present a full-fledged generative theory of collocations, nor to develop an analysis of the interaction between the syntax and the lexicon in the Minimalist Program. I merely wanted to point out an important aspect of language which `classical' generative grammar has no obvious ways of handling, and to propose a possible - and in my view promising -way of dealing with this in the Minimalist Program. If it turns out to be possible to maintain the proposal that the Minimalist Program can deal with constructions that earlier versions of generative grammar could not deal with, then we have an important piece of evidence in favor of the Minimalist Program as opposed to the earlier versions.

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