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Where Are They Headed?

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This short paper deals with two counterintuitive aspects of Word Grammar from a pedagogical viewpoint. Both are concerned with the direction of dependency relationship. One is about the direction of the arrow, which points from the head to the dependent. This is the opposite to the direction found in ordinary language classrooms. The other counterintuitive aspect is the determiner as head of the phrase. I maintain that the main reason for this analysis is to pursue the elegance of the theory. I assert that elegance should not take priority over reality, which may look more complicated or less elegant.

1.Introduction

I assume most ESL or EFL teachers are interested in grammatical theories and hope that a new grammatical theory will help them teach English grammar more easily or understandably for their students. For the past few decades, new grammatical theories appeared one after another. Most of them were, however, too novel or different from the traditional grammar to adopt in classroom. The prevailing grammatical theory in linguistics, transformational generative grammar has turned out to be not easily applicable to school grammar except a few parts.

Among contemporary grammatical theories, Word Grammar is a very unique and attractive theory in many respects probably because it derived from traditional grammar. There are, however, some parts which are not easily understandable or counterintuitive to a layman. In this short paper, I will focus on two such counterintuitive analyses, both of which deal with the direction of dependency, mainly from the perspective of an EFL teacher.

2.Which direction?

First of all, the direction itself, that is, the arrow which points from the parent (head) to the dependent (H → D), is counterintuitive or at least unfamiliar to those who are used to traditional school grammar in Japan. For example, in Word Grammar, the dependency diagrams of 'very expensive house' and 'Students generally do well.' are shown below.

very expensive house

students generally do well
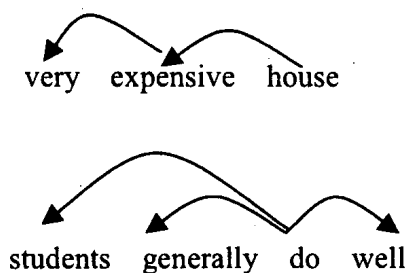
However, it is customary in traditionarl grammar instruction to show modification relationships like [adjective → noun], [adverb → verb, adjective or other adverb]. Thus, as is seen in below, the directions of the arrows is exactly the opposite to those of Word Grammar.

very   expensive   house

students   generally   do   well
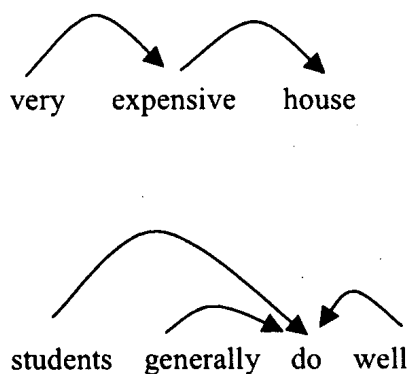
In fact, this direction (D → H) is not only common in Japan, but is found one of the most popular ESL reference books, like Swan(1995), Swan & Walter(2001) as follows:

We'll have to think quickly.   – Swan (1995, p.15)

It's an easy language.   – Swan & Walter (2001, p.202)

You might say that the arrows in Word Grammar are used to show not the relation of modification but the relation of dependency. Now, what is the difference between dependency and modification?

According to the *Encyclopedia* 'A dependency is the relationship between a word and one of its dependents.' and as for 'dependent', 'if A is a dependent of B, an arrow

connects them with its head pointing at A. A dependent of one word is (normally) another word.' Those definitions do not seem to give us any clarification of dependency itself. Hudson (1998a, p.15) gives the definition of the two terms HEAD and DEPENDENT, 'In a word combination like *joke book*, the word which provides the basic meaning is the head of the combination and the other is its dependent.' He further refers to the meaning of the direction of arrows by saying, 'it (=the arrow) points at the 'lower' word – so in 'joke books', *joke* ranks lower than *books*.'

These explanations and many examples of dependency relationship show that dependency relationships includes modification relationships in noun phrases with adjectives and verb phrases with adverbs. However, dependency relationship contains more than modification relationships. For example, according to Word Grammar there are four types of dependency: subject, complement, prepositional pre/post adjunct. It seems that these relationships are not exactly the same as modification relationships.

When we look up the word 'modify' in the *Encyclopedia,* however, we will find that the two concepts, modification and dependency, are almost the same. The explanation of 'modify' in the *Encyclopedia* is as follows:

> 'In traditional grammar, *big* is said to modify *book* in *big book*, because *big* modifies the meaning of *book* (changing it from Book to Big book). More generally, *modifier* is roughly synonymous with the modern term adjunct, though even valents such as subjects and objects 'modify' the meaning of their parent in much the same way as adjuncts - e.g. just as *big* specifies the size of the book, *I* specifies the sleeper in *I slept.* '

In short, dependency and modification in Word Grammar are almost the same concepts. And the directions of arrows are opposite between dependency of Word Grammar and modification which is taught in EFL or ESL situations. This causes counterintuitive impressions.

Now, which direction of the arrow is more appropriate or intuitively understandable, from head to dependent (H → D) or from dependent to head(D → H). According to WG, the direction means that the dependent is lower than the head. This sounds rather strange because in WG, hierarchy is denied as it is monostratal and in the diagram the head of the arrow does not seem to signify the lower place than the head as the starting point and the head point of the arrow are at the same level in the diagram.

In terms of modification relationship, the direction should be from the modifier to the modified because modify means, as stated above in the case of 'big book', change the meaning from 'book' to 'big book'. In other word, the modifier influences the modified. Generally speaking, when something (A) influences another thing (B), this phenomenon is usually depicted as (A) → (B), as is seen in the relationship among variables. For example, in foreign language learning, it is assumed that the attitude to a language influences motivation to learn it. Then the relation is depicted as [attitude → motivation].

This is also understandable from probably from a metaphorical mechanism.
When something (A) influences another thing (B), (A) approaches (B) and gives something to (B), or (A) sends something to (B). In both cases, the direction from (A) to (B) is recognized naturally.

The conclusion is that as far as pedagogical situations are concerned, arrows from dependent to head(D → H) are natural and easily understandable.

3.Determiner as the head or dependent?

Another counterintuitive analysis of Word Grammar is the determiner as head of the phrase. This was dealt with by Langendonck (1994) and he gave sets of evidence which led to the conclusion that the traditional position that N is the head in the [D + N] is to be preferred over the D-as –head thesis. Hudson (1998b) himself admits 'the analysis that the determiner as head of the phrase may be wrong.' I will consider what is the reason for the analysis, the determiner as head, and why it is necessary and what we will lose if we change the analysis.

First, let us see the reasons for this analysis. We can see the reason in Hudson (1998a, p.35) for the D-as –head thesis in the case of pronouns and it is applied to articles and determiners in general. So let us look at the case of pronouns first. Hudson(1998 a, p.36) says, "'this book' in 'the name of this book' could also be described simply as 'this' and 'the name of this' contains the same word 'this' with the same meaning and the same grammar.' This interpretation is hard to understand, at least for learners and teachers of English grammar in general. These two examples of 'this' are normally distinguished in school grammar. The former is a determiner but the latter is pronoun. We cannot say that they have the same grammar. In English they are the same in form but is quite different in function.

One possible but indirect piece of evidence to show the difference of the two is available when they are translated into Japanese. The former 'this' in 'the name of this

book' is 'kono' and the latter is ' kore'. This is true of 'that', 'ano' vs. 'are' .

Even if we accept Hudson(1998a, p.35)'s explanation above and the two kinds of 'this' are interpreted as the same and 'this' in 'this book' is the head and the 'book' is the dependent, we cannot simply apply this to the articles. While 'this' can be used without following a noun, articles always need a noun. We should not treat 'this' and articles in the same way. Now, why are determiners treated as heads instead of dependents in Word Grammar? What are the advantages? There seems to be at least three advantages. One is economy, that is, we can describe English syntax more economically, or simply or even elegantly, by using fewer categories, integrating determiners and pronouns without paying attention to their important differences. Another reason can be inferred from Hudson's comment on the effect of this analysis on dependency structures, saying "the beauty of the system", that is, all the dependencies point to the right, which means that every word (except the first) depends on the word before it as seen below.

The name of this book about the grammar of English

Pursuing beauty or elegance in grammar is desirable, but if it is not based on facts, it is like too much make-up which will come off sooner or later.

Another possible reason has to do with the precedence concord principle. According to Encyclopedia, the precedence concord principle is as follows:

A word must have the same precedence relation as its parent to the latter's parent.

For example, if *beans* depends on *like*, and follows *like*, then any other word which depends on *beans* must also follow *like*. This rules out *I baked like beans*, on the grounds that *baked* depends on *beans* but does not share its precedence relation to *like*.

The precedence concord principle blocks the word order like, [adjective + determiner + noun] such as 'red a book' and 'red this book' if determiners are defined as head.

a red book

*red   a   book
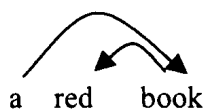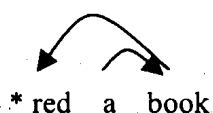
However, there are some constructions which violate this principle. There are at least three types of expressions as below.
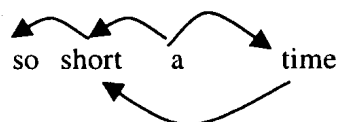
(a) so / too / how / as + adjective + a + noun   (e.g. so short a time)

(b) rather/quite/such+ a + adjective + noun   (e.g. quite a big house)

(c) not .... at all (yet)   (e.g. He is not happy at all.)

In each case, the diagram would be as follows:

(a')   so   short   a   time

(b')   quite   a   big   house
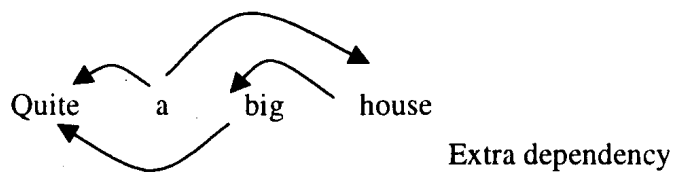
(c') He   has   not   arrived   yet.
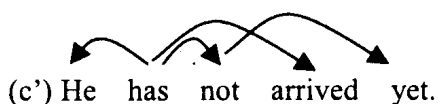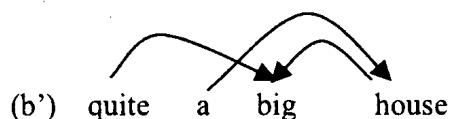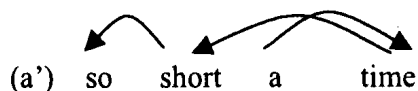
However, in order to save the precedence concord principle and explain those constructions above, Hudson (in indirect personal contact) says "there's no surface dependency between 'short' and 'time'. Rather there's an extra-dependency between the two words, which does not count in the precedence concord. Another point is that there's a dependency between 'short' and 'a' ('short' depends on 'a')." Thus the diagrams are as follows:
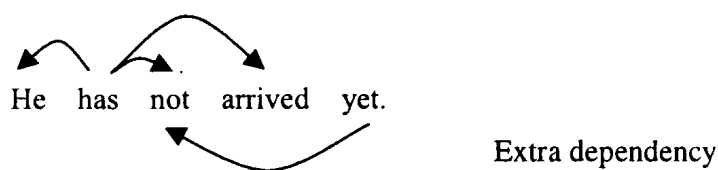
(a'')

so   short   a   time   Extra dependency

(140)

(b'')

Quite   a   big   house   Extra dependency

(c'')

He   has   not   arrived   yet.   Extra dependency
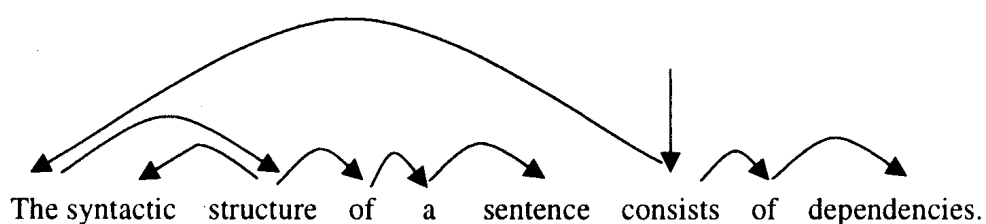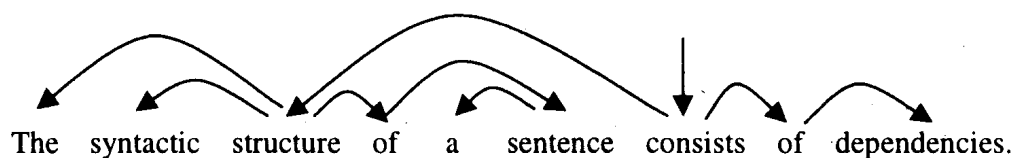
Now, the notion extra-dependency is new and can not be found in Encyclopedia so I should say this seems rather an ad-hock solution. It is true that Hudson in Word Grammar approves of a non-surface structure and claims that there are no such (=dangling) constraints on the non-surface dependencies. But there is no explanation about what kind of dependency belongs to surface and what to non-surface. I speculate that any dependency relationships which may break the precedence concord principle will belong to non-surface dependency.

4.An alternative solution

Now what would an alternative solution be like?   First, instead of assuming the non-surface-dependency, the precedence concord principle should be abandoned. This means that the surface-dependency relationships might be more complex and look messy. Second, the dependency relationships between determiners and nouns should be reversed. This might make the dependency relationships even more complicated. We can see below WG diagram, and an alternative version.

The syntactic structure of   a   sentence consists of dependencies.

(141)

The syntactic structure of a sentence consists of dependencies.

Now if we add my proposal, the reversal of the directions of the arrows, the diagram will be as follows:

The syntactic structure of a sentence consists of dependencies.
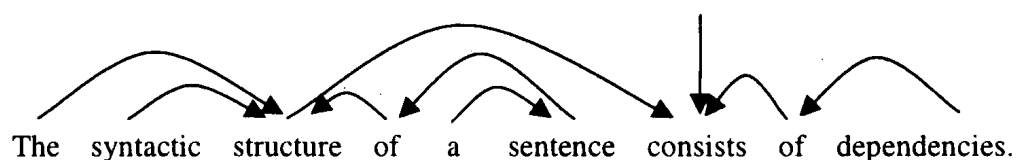
How much more complex or messy does the diagram look? As far as this diagram is concerned, there doesn't seem any big difference to me. And even if this may look messier and less elegant, as the old saying goes, it is not appearance but substance that counts.

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