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On the Order of English Auxiliaries

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There have been several analyses of the order of English auxiliaries, most of which are merely descriptive (eg. Gazdar, Pullum and Sag (1982) etc.). As far as we know, only Fabb (1983) is worth considering in that he has proposed an explanatory analysis.

Fabb (1983) notes the following co-occurrence restrictions between auxiliaries and participles:

(1)	a.	*have STEM-ing	have watching NP
	b.	*have STEM-en (passive)	have watched by NP
	c.	have STEM-en (active)	have watched NP
	d.	be STEM-ing	am watching NP
	e.	be STEM-en (passive)	am watched by NP
	f.	*be STEM-en (active)	am watched NP

and suggests the following explanation. Basing himself on the fact that passive and active participles are, even for irregular verbs, homophonous, he suggests that they are both to be derived from a common suffixed stem. Fabb uses the feature system in (2) to differentiate passive and active participles.

(2)		+N	-N	$N = \{+N -V\}$
	+∇	adj.	verb	A = [+N +V]
	-v	7 noun	prep.	V = [-N + V]
	نا		FF-	P = [-N -V]

Only those forms with [-N] are capable of assigning Case, and passive participles do not assign Case, suggesting that they lack the feature [-N]. On the other hand, active participles are potential Case assigners, so they have [-N]. Put another way, STEM-en participles have the feature complex [+V (-N)]; if [-N] is chosen, the participle will be active, and if not, the

participle will be passive. To account for the distribution:  $\frac{\text{have}}{\text{have}} \frac{\text{STEM-en}}{\text{[+V]}}, \frac{\text{be}}{\text{[+V]}} \frac{\text{STEM-en}}{\text{[+V]}}, \text{Fabb proposes that } \frac{\text{have}}{\text{obligatorily}}$  assigns [-N] to the verb following it. To rule out  $\frac{\text{have}}{\text{have}}$  STEM- $\frac{\text{ing}}{\text{ing}}$  it is necessary to rule ungrammatical words that have more than one occurrence of the same feature:  $\frac{\text{have}}{\text{have}}$  STEM- $\frac{\text{ing}}{\text{ing}}$  is

\*have STEM-inq. [+V N] [+V -N]

It appears that his analysis is satisfactory, but on closer inspection it is clear that his treatment results in overgeneration in the following cases, where ungrammatical sequences are generated because there is no violation in the feature make-up.

- - b. \* is been having  $\begin{bmatrix} +V \\ -N \end{bmatrix} \begin{bmatrix} +V \\ \end{bmatrix} \begin{bmatrix} +V \\ -N \end{bmatrix}$
  - c. \* is had being [+V][+V][+V]
    [-N]
  - d. \* has been been  $\begin{bmatrix} +V \\ -N \end{bmatrix} \begin{bmatrix} +V \end{bmatrix} \begin{bmatrix} +V \end{bmatrix}$
  - e. \* has been had

    [+V] [+V] [+V]

We noticed that in (1) have and be are in complementary distribution, a generalization that can be captured by assuming that have and be are simply different surface realizations of the same underlying form "X". We call the properties defining X, "X-theory".

The basic properties of X-theory are as follows:

- (i) In the lexicon, X has the features [+V -N], X-en the feature [+V], and X-ing the features [+V -N].
- (ii) X is freely generated before the main verb V.
- (iii) The movement of the feature [-N] is optional, and leaves a trace behind.
  - (iv) If X has the features [+V -N], it is realized as <u>be</u> at surface structure; if X has the feature [+V] and

the trace of the feature [-N], it is realized as <a href="have">have</a>. No other form of X can be realized at surface structure.

Given these properties, we can solve the problem of overgeneration in Fabb's analysis naturally. For example, (3e) in X-theory appears as (4) below.

(4) 
$$X$$
  $X-en$   $X-en$   $\begin{bmatrix} +V \\ t \end{bmatrix}$   $\begin{bmatrix} +V \\ -N \end{bmatrix}$   $\begin{bmatrix} +V \\ \end{bmatrix}$ 

The second  $X-\underline{en}$  cannot be realized as  $\underline{had}$  because there is no trace of the feature  $\{-N\}$  (cf. (iii)).

Note that with the generally accepted restriction on double progressive and double perfective constructions, there is no need to restrict the number of Xs generated to three, the maximum permitted (ie. has been being STEM-en).

An apparent counterexample is \*is having (been), but it has been suggested to us that if the trace of the feature [-N] is subject to the ECP, this example can be correctly predicted to be ungrammatical.

## REFERENCES

- Fabb, N. 1983. "Three squibs on auxiliaries," in I. Haik and D. Massam (eds.) MIT Working Papers in Linguistics 5. 104-20. Cambridge, Mass.: MIT Press.
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