J. Child Lang. 11, (1984) 000–000. Printed in Great Britain

NOTES AND DISCUSSION

The acquisition of infinitival complements: a reply to Bloom, Tackeff & Lahey*

NINA HYAMS
UCLA

(*Received* 2 *January* 1984)

In a recent article in this journal (Vol. 11, pp. 391–406), Bloom, Tackeff & Lahey examine the acquisition of *to* in infinitival complement structures. On the basis of the longitudinal records of four children (aged 1; 7–3; 0) they conclude that the element *to* is learned in connection with the matrix verb, rather than the complement verb, and that the basic structure learned by the child is 'verb + *to*'. They further suggest that the results of their study can aid in the evaluation of competing analyses of the infinitive complement structure of English. In particular, they claim that their results are more consistent with the lexicalist theory of grammar (Bresnan 1978), in which infinitival complements are analysed a $\overline{\text{VP}}$s, than the transformational account proposed in Koster & May (1982) (henceforth TG), in which the complements have a sentential (i.e. clausal) structure.

Although acquisition data can, and should, be brought to bear on theoretical issues, Bloom *et al.*'s claim that their data are more consistent with a lexicalist approach is based on a misinterpretation of the transformational analysis presented by Koster & May. In this reply I wish to clarify that misunderstanding. I would also like to point out that when properly understood, the transformational account is entirely consistent with the data obtained by Bloom *et al.*

As noted above, Bresnan's Lexical Functional Grammar (henceforth LFG) and the Koster–May transformational analysis of infinitival complements differ with regard to the constituent structure which they attribute to the infinitive. Within LFG, 'bare' infinitival complements (infinitival complements without lexical subjects) are $\overline{\text{VP}}$s, as in (1*a*), while in TG they are sentential, as in (1*b*).

(1*a*) Mary tries [$_{\overline{\text{VP}}}$ to [$_{\text{VP}}$ work hard]]

(1*b*) Mary tries [$_{\text{S}}$ e [$_{\text{S}}$ e to work hard]]

Note that in the structure in (1*b*) the complementizer and subject of the

[*] Address for correspondence: Nina Hyams, Department of Linguistics, UCLA, Los Angeles, CA 90024.

infinitive are represented by a base-generated phonologically null element [e], while in the $\overline{VP}$ analysis there is no complementizer or subject position postulated.

In their article, Koster & May also discuss a restricted class of matrix verbs which optionally take a *for* complement. Included in this class is the verb *want*. Within the theory of grammar assumed by Koster & May, when the *for* complementizer appears, the subject of the infinitive must be lexical, as in (2). (See Chomsky (1981) and Koster & May (1982) for discussion of this issue.)

(2) John wants [$_{\bar{S}}$ for [$_{S}$ Mary to work hard]]

Koster & May further assume that the complementizer *for* in the structure in (2) may (optionally) delete at surface structure. Deletion results in the structure given in (3). (The symbol ∅ represents the output of deletion, as distinct from [e] which is a base-generated empty category.)

(3) John wants [$_{\bar{S}}$ ∅ [$_{S}$ Mary to work hard]]

Verbs of the *want* class need not take a *for* complement, however. They may also appear in structures of the form of (1*b*), in which the complementizer and subject positions are null, as in (4). In this instance *want* behaves exactly like the verb *try*. (cf. (1*b*)).

(4) Mary wants [$_{\bar{S}}$ e [$_{S}$ e to work hard]]

In their exposition of the Koster & May analysis, Bloom *et al.* confuse the particular analysis of *want* with the more general claim that infinitival complements are sentential in structure. That is to say, they mistakenly assume that on a transformational account ALL infinitival complements are 'derived from a full underlying sentence structure with *for* complementizers' (p. 393). For example, they assume that the verb *try* takes an underlying *for* complementizer and lexical subject (p. 393). Based on this misinterpretation, Bloom *et al.* examine the acquisition data to 'determine if *to* was originally learned in sentential contexts with *for* complementizers and sentence subjects' (p. 000). The results of their study indicate that this is not the case, and thus they conclude that 'the transformational account of simpler structures being derived from more complex underlying sentential structures finds no support in this developmental study of *to* complements' (p. 000).

The crucial claim of the transformational analysis is that all infinitive complements have a sentential constituent structure. The choice of complement type, however (e.g. *for* complement, *that* complement, etc.) is an idiosyncratic property of individual matrix verbs which is expressed by subcategorization frames in the lexical entry of each verb. The verb *want*, for example, is optionally subcategorized for a *for* complement; the verbs *try*, *see*, etc. are not. The subcategorization approach to complementation, first introduced in Bresnan (1970), has been standard in TG for more than 10 years, and is quite clearly assumed by Koster & May. It is therefore difficult to see how Bloom *et al.* can claim that 'the transformational account by Koster

& May is consistent with classical generative theory in treating all infinitive complements as sentential and derived from a full underlying sentence structure with *for* complementizers' (p. 393). Although Bloom *et al.* do not cite a particular author when they speak of 'classical generative theory', the account of complementation which they present most closely resembles that of Rosenbaum (1967), an analysis which has long since been abandoned, and which in no way represents the position adopted by Koster & May.

Turning now to the acquisition data, of the 20-odd matrix verbs uncovered by Bloom *et al.* in their corpora, only two, the verbs *want* and *like*, belong to the class which is analysed within TG as taking a *for* complement. Similarly, in their discussion of infinitival complements to nouns and adjectives (e.g. expressions like *about to*, *ready to*, *time to*), Bloom *et al.* fail to distinguish those matrix forms which may take a *for* complementizer (e.g. *time to*) from those which do not (e.g. *about to*). Rather, they assume, again contrary to fact, that on a transformational analysis all infinitival complements to nouns and adjectives are headed by an underlying *for* complementizer. Given the idiosyncratic (i.e. lexically specific nature of complementation, there is absolutely no reason to expect, as Bloom *et al.* do, that *for* complementation will be a productive process in child language. Certainly, there is nothing in the transformational analysis of infinitival complements which would lead one to expect such a result.

The distinction made within transformational grammar between general syntactic rules and idiosyncratic lexical properties has important implications for the study of acquisition. In particular, it is assumed that idiosyncratic lexical properties, which include the choice of complement type, must be learned largely on an item-by-item basis. The acquisition of such properties may therefore require more exposure to data, with the result that they will generally not be among the earliest grammatical developments. Thus, within the transformational framework, one predicts Bloom *et al.*'s finding that 'the children produced *for* complementizers... only rarely and only towards the end of the period under study here' (p. 401). Moreover, the transformational analysis is entirely consistent with their conclusion that 'the use of *for* complementizers was lexically specific rather than the result of a generalized syntactic rule for complementation when it first began to appear in these children's speech' (p. 401).

The Bloom *et al.* hypothesis that infinitival complements in child language will originate with *for* complementizers and lexical subjects is based on a misconstrual of the transformational analysis they cite. As such, their conclusion concerning the adequacy or consistency of TG *vis-à-vis* the acquisition data is simply invalid.

One final point which deserves clarification concerns Bloom *et al.*'s main findings that 'the children learned *to* as a complementizer connective with the higher verb and other matrix forms, and the basic structure that they

learned originally was verb + *to*' (p. 405). The authors claim that these results are 'more consistent with the lexicalist theory... than the transformational account' (p. 405). As noted earlier, it is traditionally assumed (both within TG and LFG) that in the adult grammar the choice of complement type (hence, the presence of *to*) is a lexically specified property of the matrix verb, expressed in subcategorization frames. To my knowledge, it has never been suggested (within any theory) that the presence of absence of *to* is governed by the choice of complement verb. Thus Bloom *et al.*'s first observation, that '*to* is learned as a complementizer connective with the higher verb' suggests that children have learned the subcategorization properties of particular matrix verbs, and this finding is equally consistent with both theories of grammar. The author's second claim, namely that the basic structure learned by the child is 'verb + *to*' is somewhat more difficult to interpret since this structure is equally INCONSISTENT with both theories. On the TG analysis of infinitivals, *to* is contained with an embedded S (cf. (1*a*)); in LFG it is contained within a $\overline{\text{VP}}$ (cf. (1*b*)). In neither instance does the connective *to* form a syntactic unit with the matrix verb. It is therefore not clear why Bloom *et al.* construe this finding as being more consistent with LFG. It is equally unclear how Bloom *et al.* wish to reconcile their claim that 'verb + *to*' is a basic structure with the data in their examples (14)–(17) (examples given in (5) below), in which the verb and *to* are separated by the lexical subject of the embedded infinitival.

(5*a*) Want *me* to do this.

(5*b*) I want *this doll* to stay here.

In conclusion, it should be noted that the observation that 'verb + *to*' functions as a unit in some sense does not in itself constitute evidence that these elements form a SYNTACTIC unit for the child. The co-occurrence of these two elements in the acquisition data can easily be explained by assuming that for the child, as for the adult, particular matrix verbs are subcategorized for infinitival complements. This hypothesis is in fact supported by the occurrence of sentences like those in (5) in which the verb + *to* cannot be a 'basic structure'. If this is the case, then the data obtained by Bloom *et al.* support the standard analysis of complement selection as a lexical property of the matrix verb, but they are entirely neutral with respect to the question of the internal structure of infinitival complements, i.e. whether thay are sentential or $\overline{\text{VP}}$s. In short, if the authors wish to assume a subcategorization account of the 'verb + *to*' phenomenon, this is consistent with both theories. If, on the other hand, they wish to maintain that 'verb + *to*' forms a grammatical constituent, then their analysis is consistent with neither theory.

REFERENCES

Bloom, L., Tackeff, J. & Lahey, M. ( ). Learning *to* complement constructions. *JChLang* 11. 391–406.

Bresnan, J. (1970). On complementizers: towards a syntactic theoory of complement types. *FL* 6. 297–321.

—— (1978). Towards a realistic transformational grammar. In M. Halle, J. Bresnan & G. Miller (eds), *Linguistic Theory and Psychological Reality*. Cambridge, Mass.: M.I.T.

Chomsky, N. (1981). *Lectures on government and binding*. Dordrecht: Foris Publications.

Koster, J. & May, R. (1982). On the constituency of infinitives. *Lg* 58. 116–43.

Rosenbaum, P. (1967). *The grammar of English predicate complement constructions*. Cambridge, Mass.: M.I.T.

hh