

NOTES AND DISCUSSION

**Morphosyntactic development in Italian and its
relevance to parameter-setting models: comments on
the paper by Pizzuto & Caselli***

NINA HYAMS

University of California at Los Angeles

(Received 3 October 1991. Revised 9 April 1992)

ABSTRACT

Pizzuto & Caselli (1992) claim that data from the morphosyntactic development of Italian-speaking children are inconsistent with nativist, parameter-setting models of language development. In the present Note it is argued that much of the data which Pizzuto & Caselli adduce is irrelevant to the specific hypotheses they are evaluating and that those data which are relevant fully support parameter-setting and linguistic-theoretic models, contrary to their claims.

INTRODUCTION

In their paper Pizzuto & Caselli (1992) (henceforth P&C) present empirical data from Italian child language which they claim provides evidence in favour of cognitive/information-processing models of development and against parameter-setting models, especially those of Hyams (1984, 1986*a*, *b*, 1987). There are a number of serious misunderstandings and inaccuracies in P&C's presentation of my specific proposals and of parameter theory more generally. Moreover, most of the Italian data they present, though descriptively interesting, are irrelevant to the theories they are discussing, and where the data are relevant, they do not support their claims. In fact, when the relevant theories are understood, the Italian data fully support the specific claims I have made concerning the acquisition of Italian. In what follows I hope to clarify some of the relevant issues.

[*] Acknowledgements: a version of this paper was read at the Workshop on Crosslinguistic and Cross-population Contributions to the Theory of Acquisition, The Hebrew University of Jerusalem, Israel, June 1991. I would like to thank the participants of that workshop, in particular, Vicki Fromkin, Yosi Grodzinsky, Teun Hoekstra and Yonata Levy. I would also like to thank the editor of the *Journal of Child Language* for giving me this opportunity to reply. Address for correspondence: Nina Hyams, University of California at Los Angeles, Linguistics Department, Los Angeles, CA 90024, USA.

RESPONSE TO P & C

Parameter models

P&C argue that their data disconfirm several specific proposals that I have made, including the pro-drop analysis of subjectless sentences in early child language (Hyams, 1986*a*, 1987), the stem parameter account of the development of inflectional morphology (Hyams, 1986*b*), and the claim that early grammars have a syntactic, as well as a semantic, component (Hyams, 1984). Since the data presented in their paper are most relevant to the stem parameter analysis, I will discuss this first. I will then discuss the relevance of the Italian data to the other two analyses.

The stem parameter

In Hyams (1986*b*), I present a parametric analysis of the cross-linguistic development of verbal inflection. The parameter in question, the stem parameter, attempts to describe the difference between languages like English, in which the verb may surface as a bare stem, e.g. *talk*, as opposed to languages like Italian, in which the verb must always bear an affix. The parameter defines a well-formedness condition on word formation in the two language types – a bare stem is/is not a well-formed word. With respect to acquisition, I claim that children ‘set’ this parameter very early on, which is to say that they determine at a young age what constitutes a well-formed word in the language.

The stem parameter analysis makes two specific predictions for languages of the Italian type. The first is that Italian children will never produce verbs in their bare stem form (while English-speaking children, who learn inflection as a ‘marked’ property of the language, will use bare stem forms). The second prediction, which is not a direct deductive consequence of the stem parameter but related to it, is that children acquiring Italian will learn the inflectional affixes earlier than English-speaking children because, given the Italian setting of the stem parameter, they do not have the option of omitting these inflectional elements.

P&C, based on their understanding of parameter theory, make a third prediction. They predict that the acquisition of verbal inflection will be triggered in an ‘all-or-none fashion’. They state that, ‘[on a parameter account] we expect that Italian children master all verb inflections ... and that they do so more or less immediately, at the same time as, or shortly after they begin to produce verbs’ (P&C, 506).

What do the acquisition data show regarding these predictions? The first two predictions, the ones that are presented in Hyams (1986*b*), are fully supported by the data which P&C present. First, Italian children do not produce bare stem forms. Second, the Italian children in this study acquire

the singular present tense affixes (1st-, 2nd- and 3rd-person singular) substantially earlier than English-speaking children acquire the 3rd-person singular *-s*. This is shown quite directly in P&C’s Table 9 and also explicitly noted in their discussion section (548). Two of the Italian children reached criterion on these forms during Brown’s Stage I, and one child in Stage III (age-range 1;10–2;1), while the English children reach criterion for the 3rd-person *-s* at stage IV or V or beyond (age-range 2;4 to 3;10 or beyond). I will return shortly to the question of plural and past tense inflectional forms.

What about P&C’s ‘all-or-none’ prediction? This is not confirmed by their data, nor would one expect it to be. The acquisition of inflectional affixes, like the acquisition of free morphemes, is a form of LEXICAL LEARNING. Everyone agrees that children must learn individual lexical items, whether they are free or bound, and that this learning depends on a number of factors, including semantic, syntactic and phonological ones. Thus, the learning of an inflectional paradigm, like learning within other grammatical categories, e.g. prepositions, articles, pronouns, etc. is likely to be gradual in the sense that each form within the category will be acquired individually.¹ We would not expect children to acquire all the inflectional affixes at once any more than we would expect them to acquire all the prepositions or pronouns of a language at once. Contrary to P&C’s claims, the stem parameter does not require or predict instantaneous and simultaneous acquisition across several inflectional paradigms and nowhere do I make such a claim. In fact, I would add that such a development would be close to miraculous.

As noted above, the setting of the stem parameter entails only that the child knows a specific condition on word formation, not that he or she knows all the individual inflectional forms. Within parameter theory there is an important distinction made between those properties of the grammar that are triggered by virtue of parameter setting, which are predicted to develop in a discrete manner, all else being equal, and those aspects of language which reside in the lexicon (i.e. the learning of particular morphemes and their associated syntactic, semantic and phonological properties), which is likely to be piecemeal and gradual. The distinction between grammatical and lexical learning has been discussed quite explicitly in a number of papers within the parameter-setting framework (e.g. Wexler & Manzini, 1987; Hyams, 1988;

[1] It is worth noting that with respect to the acquisition of individual inflectional affixes, development is not at all gradual, contrary to what P&C claim (525). Figs 1–3 show an initial period in which the 1st-, 2nd- and 3rd-person affixes are simply not used very much (indicated by the minus (‘-’) mark), and then, almost immediately, they are used with a high level of accuracy. There is no well-defined period in which the forms are used frequently, but incorrectly (i.e. virtually without exception, where the line dips below 80%, it is marked with a minus mark). Notice that this pattern is quite different from the curves for the article and copula (Figs 4–5) which show a much more gradual development with marked ups and downs throughout the course of development.

Chien & Wexler, 1990). In fact, in the stem parameter paper itself (Hyams, 1986*b*), there is an explicit discussion of the difference between setting the parameter to determine the well-formedness of bare stems in a language, and the learning of particular affixes, which is dependent on a number of factors. It is unfortunate that the important distinction between grammatical and lexical development is obscured throughout P&C's paper.

P&C's discussion and presentation of the Italian acquisition data is also quite misleading. P&C repeatedly claim that the children they studied had acquired ONLY the singular affixes and that this reflects their incomplete MORPHOLOGICAL knowledge. However, they note that the children used plural forms very infrequently (8 to 18% of verb forms, 5 to 8% of pronouns, and 11 to 22% of articles) and that it is for this reason that not one plural form ever met their acquisition criteria. If children are not using plural subjects frequently, then they will also not be using plural verb forms frequently. Hence, all we can conclude from the lack of plural inflections is that children do not like to talk about plural things, a fact which has been reported in acquisition studies of other languages (Valian, 1990; Frijn & de Haan, 1991). This finding is interesting, but hardly relevant to the question of children's morphological development. A similar point can be made with respect to past tense and other verb forms, e.g. conditional, subjunctive, etc., which may be lacking for conceptual rather than grammatical reasons.

What kind of data would show that children did not know the plural verb forms? If, for example, P&C found that children often used plural subjects with singular verb forms, this would be evidence that they did not know the plural affixes (though it would still not be relevant to the claims of the stem parameter). Interestingly, P&C report that erroneous verb forms occurred only from 1 to 4% and this includes a number of different kinds of errors. Thus, it is fair to conclude that children did not often make the error of using a singular verb form where a plural one was required. We will have more to say about agreement errors or lack of them below.

Before concluding this section, I would like briefly to return to the first prediction of the stem parameter: that Italian children will not use bare stem forms since this would violate the well-formedness condition on words defined by the parameter. P&C take issue with this prediction. First, they do not see how it could ever be falsified. Second, they claim that words in Italian 'can be segmented into stem + affix components only from the linguist's standpoint. Thus, it is unlikely that any Italian child might produce bare stems to which he is never exposed.' (501).

With regard to the question of falsifiability, at the risk of appearing obvious, the claim that Italian children do not use bare stems would be falsified just in case these children produced bare stems. With respect to the second point, if I understand correctly, P&C are saying that Italian children do not segment words into stem + affix (in contrast to the linguist), and

moreover, that they are not likely to produce forms that they have never heard in the input. But if these Italian children are unable to do even a minimal morphological analysis of segmenting a word into stem + affix, what exactly do all P&C's tables which report frequency of usage of particular morphemes refer to? How are these children able to inflect the verb correctly to agree with the subject (recall the virtual lack of agreement errors), not to mention to make morphological overgeneralization errors, without any knowledge of the internal structure of words in their language?

P&C's other point, that children fail to produce bare stems because 'they are just reproducing what they hear' (501), simply ignores one of the most salient and interesting properties of language development (and one which led to the abandonment of earlier behaviourist approaches to the problem), namely, that children go beyond what they hear in the input. P&C should recall that their own data show that children omit clitic pronouns and articles, though such utterances would not be found in the input. The children also produce morphological overgeneralizations and other incorrect verb forms which they have not modelled after adult speech. Unless P&C can explain why children are willing to ignore the input in some cases but not others, the notion that children fail to produce bare stems because they do not hear them is vacuous.

Moreover, to say that Italian children do not use bare stems because Italian adults do not (i.e. it is not in the input) completely begs the question of why Italian and English differ in this particular respect. The difference between Italian-like languages and English-like ones with respect to inflectional requirements seems to me to be an important grammatical difference between the two language types, one which is reflected not only in the differences in the acquisition of inflectional morphology in the two languages (P&C's claims to the contrary notwithstanding), but also in the language of adult aphasics. As noted by Grodzinsky (1990) and others, Italian agrammatic aphasics do not drop inflections in the way that English-speaking aphasics do. The parameter analysis developed in Hyams (1986*b*) attempted to provide a unified account of this shared property of child language and aphasic language. Obviously, the suggestion that children do not do it because adults do not will not account for aphasic behaviour.

To sum up briefly, there are two predictions of the stem parameter for Italian acquisition. First, that the children will not produce bare stems and second, that they will learn inflection faster than English-speaking children. Both of these predictions are confirmed by P&C's detailed quantitative study. With respect to the second prediction, at the relevant age children speak essentially in the present tense and seem, for whatever reason, to avoid plurals. Restricting our attention, then, to singular present tense forms, we find the development in Italian to be considerably more precocious than in English. As for the all-or-none issue, this is simply a straw man which allows

P&C to finesse some of the obvious differences which do exist between English- and Italian-speaking children.²

The pro-drop parameter

P&C provide a detailed presentation of Hyams' (1986a, 1987) pro-drop account. However, most of the data presented in P&C's paper are irrelevant to the question of whether young children start out with a pro-drop grammar; for example, the data on inflection, articles and clitics. Hyams' pro-drop analyses being discussed made no predictions with respect to these elements. Moreover, where the data do have some bearing on the pro-drop question, as in the case of the copula, and more loosely, pronouns, either the specific hypotheses are misinterpreted or the relevant data misanalysed.

Let me begin with their discussion of overt pronoun use by Italian-speaking children. Following that I will discuss the relevance of P&C's data on auxiliary acquisition.

Lexical pronouns

P&C argue that in order for the pro-drop analysis to be correct, young children must be shown to be productive in their use of lexical pronouns. They state,

... it would seem necessary to show that young Italian children are indeed capable of producing the set of pronouns they may optionally omit. In the absence of such evidence, whenever children omit subject pronouns it is impossible to know whether they are producing 'rule-governed' omissions, or rather not producing elements they have not yet acquired. (498).³

[2] To account for the differences in the rate of morphological development between English and Italian children, P&C suggest, following Miller (1981) and Bates *et al.* (1988), that we should consider 'morphological development [in terms of the] proportion of the range of morphemes that must be learned in a given language' (548). If I understand correctly, this means that if English has five morphemes and Italian 25, we would expect that the Italian children should acquire five forms for every one the English-speaking child acquires during the same length of time. This proposal raises a whole number of questions, not the least of which is why would we expect this? What is the theoretical or empirical rationale for such a proposal? Second, how would the child know how quickly to proceed unless s/he had teleological knowledge of the number of morphemes in his or her specific language? Moreover, how do we decide what the relevant morphemes are to be included in the count - bound, free, inflectional, derivational? How do we compare isolating vs. agglutinating languages? Finally, how would this particular kind of measure, assuming you could work it out, bear on the specific analyses in this paper? P&C address none of these issues.

[3] P&C attribute the following claim to me: 'Hyams (1986a: 125, fn. 6) notes that, with some irrelevant exception, Italian children productively use all subject pronouns early in development' (498). I do not make such a claim. The note which they cite describes a brief

From a Government-Binding theoretical perspective, P&C's claim is quite misguided on a number of counts. First, the phonologically empty pronoun 'pro' is not derived from a lexical pronoun and hence the use and/or knowledge of 'pro' does not entail the use/knowledge of overt pronouns. In other words, null subjects are not the result of a deletion of or substitution for a lexical pronoun; rather, 'pro' is inserted directly into a phrase marker at D-structure. Thus, it is possible in principle for the child to know only one pronoun in the language - the null one.

Second, even if children do not know the lexical pronouns, they can nevertheless avoid using a null subject simply by using a referring expression, such as *the boy* or *Francesco*. It is well known that children use names where pronouns would be appropriate in the adult language, especially for self-reference. In fact, with respect to the Italian data, P&C note that there was a considerable amount of inappropriate use of names e.g. *Marco mangia* ('Marco eats') instead of *io mangio* ('I eat'). They report that the proportion of child names used in place of 1st-person pronouns was 12% for Claudia, 17% for Francesco and 50% for Marco. Thus, it is clear that even if these children had not yet acquired the pronoun forms, they do have a pronominal use of names which provides them with an alternative to the use of null subjects.

A final problem with their proposal is that pronoun use in null subject languages is quite restricted pragmatically; overt pronouns are used for contrast, emphasis, or to disambiguate antecedence, as in *Gianni e Maria sono andati a una festa. Lui è partito presto.* ('John and Mary went to a party. He [not she] left early.') When these pragmatic factors are not in play, it is felicitous only to use a null pronominal. Thus, we would not expect overt subject pronoun use to be prevalent in early Italian any more than it is in the adult language. This is especially true with 3rd-person pronouns since when 3rd-person subjects are introduced or used emphatically/contrastively, there is the additional option of using a non-pronominal NP, e.g. *John, the boy*, an option which is unavailable (in the adult language) for 1st- and 2nd-person subjects.

Given these observations, it is not particularly clear what the results of a statistical analysis of lexical pronouns in early Italian would mean. Nevertheless, let us consider the data which P&C present in this regard. It will be

period in which two Italian children used subject pronouns in instances which would be pragmatically unacceptable in the adult language and provides examples. The note says nothing about the general use of pronouns by Italian children or its productivity. It is difficult to see how P&C could have so misunderstood the content of this note. Similar inaccuracies occur elsewhere in their paper; for example, I never claimed 'complete productivity in the tense and aspect system of Italian by age 2;6', also attributed to me (500). This claim was made by Witkowska-Stadnik for Polish children, which I report (Hyams, 1986a: 104, fn. 18).

recalled that P&C think it is important to show that children are CAPABLE of producing the set of pronouns that they optionally omit. Moreover, it is the case that the children do not use plural verb forms. If they are not using plural verb forms, it follows that they are not using null subjects with plural verb forms. If they are not using plural null subjects, then their use of plural lexical pronouns is irrelevant to the hypothesis since these are not among the set of omitted pronouns. Thus, P&C's observation that the children do not use plural pronouns is simply another instance of the general tendency to 'avoid plurals' and is completely irrelevant to the pro-drop analysis.

As we noted earlier, parameter theory does not entail across-the-board acquisition of all pronouns (just as it does not entail across-the-board acquisition of all inflections). Thus, the fact that children do not use plural subject pronouns does not mean that they lack singular pronouns. Therefore, we should look at the children's use/knowledge of singular subject pronouns e.g. *io* 'I', *tu* 'you', *lui/lei* 'he/she'. Italian-speaking children do use singular verb forms with null subjects and hence in order to satisfy P & C's criterion that this is indeed a rule-governed process and not simply non-acquisition of the relevant pronouns, we need to show that the children produce singular pronominal subjects since these are the ones that are omitted. In fact, as P&C's Table 7 shows, the three children do use singular pronouns and use them with a high degree of accuracy. Thus, for the 1st-person singular pronoun the percentages correct are 86, 83 and 50 for Claudia, Francesco and Marco. Almost all the 'errors' involve cases where a name is substituted for the pronoun, and it is far from clear that these should count as pronoun errors, since there is no pronoun and the verb correctly agrees with the 3rd-person subject, e.g. *ape Checco* 'opens Francesco'. For the 2nd-person pronoun the percentage correct is 98, 100 and 86 for the three children. The 3rd-person pronouns are used very infrequently and hence one might argue that in this specific case, namely in sentences with 3rd-person subjects, the children fail to use a subject because they have not yet acquired the relevant pronouns. This seems highly doubtful, however, since, as noted above, the children do have the option of using a non-pronominal lexical subject (and in fact even do so inappropriately for 1st- and 2nd-person subjects). Moreover, it would be curious if children had more difficulty learning the 3rd person SUBJECT pronoun forms, which are stressed, (e.g. *lui/lei va a scuola tutti i giorni* 'he/she goes to school every day') than the object pronouns, which are unstressed clitics and frequently appear in reduced form in the input (e.g. *L'ho visto ieri* '(I) it-have seen yesterday'). The percentage correct for singular object clitics is 87, 86 and 91 for the three children.

Whatever the case for the 3rd-person subject pronouns, it is obvious from P&C's own data that children are capable of producing the 1st- and 2nd-person forms and hence that children do not omit THESE SUBJECTS because

they have not yet acquired the relevant pronouns. It is thus remarkable that the authors conclude that,

... the omission of subject pronouns by Italian children may simply reflect their insufficient knowledge of the pronominal system, rather than a rule-governed process generated by the setting of the pro-drop parameter. (548).

Putting aside the pronoun facts, which to the extent that they are relevant at all, support the pro-drop analysis, it is unclear where P&C wish to go with this argument. Do they want to suggest that Italian-speaking children are not speaking a pro-drop language, and that subjects are obligatory (contra the pro-drop hypothesis)? If they do, what is the evidence for this claim?

It is worth noticing in this regard that Valian (1992) has observed that Italian children omit subjects at a rate of about 70%. Hyams & Wexler (forthcoming), in an analysis of the spontaneous discourse of Italian adults, found that about 71% of their subjects were null. Thus, the proportion of null subjects is virtually identical for Italian children and Italian adults. This makes sense if the children are speaking a pro-drop language, like the adults. On the other hand, if children are omitting subjects because they do not know the pronouns, and the adults omit subjects because of the pro-drop option, then the striking similarity in the rates of omission in the two populations is entirely accidental. While the identical proportions do not entail that the underlying cause of omission is the same in adults and children, the result is certainly suggestive.

If, on the other hand, P&C take lexical subjects to be optional for Italian children as for Italian adults, then they are in agreement with some version of the pro-drop hypothesis. In short, what are P&C proposing about the grammar of Italian-speaking children, beyond the obvious point that specific lexical forms must be learned? They offer nothing in the way of an analysis.

Auxiliaries

P&C claim that the Italian child's acquisition of auxiliaries fails to support the pro-drop analysis of Hyams (1986a). However, their auxiliary data are, in fact, irrelevant to that analysis. In Hyams (1986a) I discuss the acquisition of the Italian modals and copula relative to the English modals and copula. I argue that since the Italian modals function morphologically and syntactically like main verbs and are not generated under AUX (or more currently, INFL) as in English, utterances containing the Italian modals *dovere* ('must') and *potere* ('can') would be among the first complex constructions used by the child, comparable to the semi-auxiliaries in English (Hyams, 1986a: 116). My results show that for 8 of the 11 children studied, the modals occurred within three months of the first use of complex

sentences, whereas for English-speaking children there was generally a significantly longer lag in the emergence of modals RELATIVE TO OTHER COMPLEX CONSTRUCTIONS, for example the semi-auxiliaries (Bellugi, 1967). In short, I claim that 'the emergence of the Italian modals is closer to the semi-auxiliaries than to the English modals', since the former bear verbal inflection and are analysable as main verbs (Hyams, 1986a: 118).

I also claim that the Italian verb *essere* ('be') 'will be productive in Italian at an earlier point than in English for precisely the same reasons' (Hyams, 1986a: 118), namely, that *essere* could be analysed as a main verb by Italian-speaking children and not as a member of *AUX*, as in English. As I note (Hyams, 1986a: 120), my claim concerning the relative ease of Italian *be* was based on the observation that this element, especially its 3rd-person form, occurs very frequently in the speech of young Italian children, even at the earliest stages, while it is systematically absent in early English.

P&C do not discuss the Italian modals at all, though this was the primary data upon which my original claims were based. They do examine the development of the copula and find that in two of the children it shows a 'delayed pattern with respect to main verbs' (535)⁴. It is on this basis that they conclude '...the remarkable delay we documented in the appearance and acquisition of copula and auxiliaries evidence that, contrary to what is hypothesized and claimed by Hyams, these verbal elements do not follow the same developmental pattern proper of main verbs' (548).

While P&C's observation concerning the copula may be true, the acquisition of *essere* relative to other Italian verbs is completely irrelevant to the hypothesis being tested. As noted above, my analysis predicted only that *essere* would be acquired earlier than English *be*. This prediction is fully supported by P&C's data. Their Table 9 places the acquisition of the 3rd-person singular form of the copula, *è*, at Brown's Stage III for two of the three children. This is substantially earlier than the English auxiliary/copula *be*, which are the last of the 14 grammatical morphemes to be acquired. According to Brown (1973) the English forms are acquired during Stage IV (MLU = 4.0; age range 2;3-4;0).⁵

With respect to the Italian auxiliaries *essere* (be) and *avere* (have), which

[4] It is not clear from P&C's discussion how they computed correct usage of the copula (their Fig. 4) since it is very difficult to determine an obligatory context for the copula in Italian. There are utterances such as *la macchina rotta* ('the car broken') which could be an instance of an omitted copula (= the car is broken) or an NP with a postnominal adjective (= the broken car).

[5] P&C include in their Table 7 the point of acquisition of the English UNCONTRACTIBLE copula. This is the form that appears in sentences such as *Here it is*, *There it is*, *Where is it?*, in which *be* cannot be contracted (**Here it's*). Brown (1973) notes that in these contexts *be* appears to be acquired quite early in English (seventh of the 14 grammatical morphemes), essentially because they are rote phrases. However, the CONTRACTIBLE *be*, that is, *be* which occurs in contexts in which it can be contracted, e.g. *he is laughing* and

are used in past participle constructions, e.g. *sono andata* ('I have gone'), *ho dormito* ('I have slept'), I made no claims at all about their acquisition within the context of my pro-drop analysis. In particular, the pro-drop analysis does not predict that these auxiliaries and main verbs in Italian will be acquired in the same way at the same time, as P&C suggest. As just noted, this is not even the correct prediction for the modals and the copula, and it is certainly not predicted for the auxiliaries *essere* and *avere*, which are used in the passive and past (compound) tense constructions and obviously involve semantic and other complications (e.g. their morphology is highly irregular) completely unrelated to the pro-drop hypothesis.

Early Italian grammar

P&C also take issue with my description of several grammatical characteristics of early Italian (Hyams, 1984, 1986a). My discussion of this issue was completely unrelated to parameter theory and was an attempt to show that early grammars must have an early syntax consisting minimally of certain grammatical categories and relations such as N, V, subject, etc. This was in contrast to the theory that children's grammars are semantically based (Schlesinger, 1971; Bowerman, 1973). Frankly, I find P&C's objections to my proposal completely baffling since, once again, their data fully support the claims I made.

In Hyams (1984, 1986a), I claimed that processes such as subject-verb agreement, agreement within NP, and correct clitic/NP placement are productive in the language of young Italian children and, I argued, they provide evidence of an early syntax. I noted that in the data I examined there were very few agreement errors and clitics were always correctly positioned with respect to the verb. Moreover, there was no evidence that these processes were semantically restricted in a way that would be predicted by a semantically based grammar.

P&C do not discuss any of these grammatical processes in great detail. However, they do note some very relevant statistics. Their results show, first, that errors in article use (i.e. agreement errors) were 3 to 4% across children; second, that verb errors, including agreement errors, ranged between 1 and 4%. Finally, although the authors do not discuss clitic placement at all, it seems fair to conclude that if they had found an error as salient as an incorrectly placed clitic, they would have made note of this. Thus, all three

he is happy (cf. *he's laughing*, *he's happy*), is a very late acquisition. The terminology which Brown uses to describe the different occurrences of *be* is confusing, but it is clearly the contractible form which is relevant here, and not the uncontractible form which has a quite restricted range in English and which occurs in what are arguably fixed expressions for the child.

of the claims that I made concerning syntactic phenomena in early Italian are confirmed by this detailed, quantitative study. The Italian children in this study performed above the 90% criterion level with respect to each of these grammatical processes. And yet, most remarkably, P&C conclude that,

the serious deficiencies we found in the children's use of definite articles and clitic pronouns undermine the plausibility of Hyams' claims that there is productive agreement within NP and that Italian children's early grammar defines such grammatical and syntactic categories as NP, Noun, Determiner and Clitic (549).

CONCLUSION

One of the explicit goals of P&C's paper is to 'evaluate the plausibility of a nativist, parameter-setting account of language development in Italian and English'. Whatever the merits of their paper, it in no way accomplishes this goal. The hypotheses which are derived from the two parameter models which they discuss, the stem parameter and the pro-drop parameter, are explicitly presented in the papers which P&C cite (Hyams, 1986*a, b*, 1987) and even reported by P&C in the form of their HPs. Yet, subsequently, in their analysis of the Italian data, the authors either completely misunderstand or ignore these predictions in favour of their own (for example the 'all-or-none' assumption with respect to inflection), which do not follow from the models under any reasonable construal, and certainly not as I formulated them.

Although P&C's paper provides some descriptively interesting new data, most of it has no bearing on the parameter models being evaluated, for example, the data on articles, clitics, and compound tense auxiliaries. More importantly, where the data do have some relevance (even loosely, as in the case of pronouns), they support the predictions of the two parameters, though P&C fail to recognize this.

P&C not only misrepresent my specific proposals, but also parameter theory in general. They claim that their data 'do not seem to support a parameter-setting account of language acquisition in which a limited set of innate "principles" or "parameters" univocally [*sic*] determine acquisition' (550).

First, it should be clear that nothing in P&C's paper has any bearing on the question of innateness, though the authors imply that it does (550). Even if their data did pose empirical problems for some particular parameter account, which they do not, this would only disconfirm a specific proposal concerning the form of innate linguistic knowledge and not the more general claim that there is an innate component to language development.

Second, and more importantly, proponents of parameter-setting models

do NOT claim that language acquisition is uniquely determined by parameter-setting. In fact, most of the work within a parameter-setting framework has stressed the modular and interactive nature of language development. It is explicitly recognized that in addition to parameter-setting, the child must develop lexical and pragmatic knowledge, as well as processing resources, and that s/he must learn certain language-specific rules/properties. Moreover, explicit learning mechanisms have been postulated and tested; e.g. the SUBSET PRINCIPLE (Berwick, 1985; Wexler & Manzini, 1987). Most current work is concerned precisely with determining the relative contributions of each of these different components, for example, if the pro-drop phenomenon in child language is a grammatical, pragmatic or processing effect (Bloom, 1990; Hyams & Wexler, 1991; Valian, 1992) and whether the so-called 'developmental delay of principle B' of the binding theory (binding of pronouns) reflects a lack of lexical, pragmatic, or grammatical knowledge (Jacubowicz, 1984; Chien & Wexler, 1990; Grimshaw & Rosen, 1990; Grodzinsky & Reinhart, forthcoming; McDaniel & Maxfield, 1991, among many others).

Contrary to the assertions of P&C, parameter models do not exclude 'gradual' development. While parameter setting is theoretically a discrete operation, parameters are not set in a vacuum. There are many other factors which interact with a particular parameter setting (including other parameter settings), which may obscure the effects of the parameter setting and thereby give the appearance of 'partial' or 'gradual' acquisition.⁶

Similarly, the child may KNOW a rule but fail to USE it consistently due to differences between his or her grammar and the adult grammar, or to performance limitations, or to insufficient lexical knowledge – again giving the appearance of partial acquisition or non-discreteness (cf. Grimshaw & Rosen, 1990; Grodzinsky & Reinhart, 1991).

For these reasons, it is simply not very revealing to look at the acquisition data without a principled set of assumptions concerning the structure of the underlying system. But this is precisely what P&C do. They offer us a long list of the various morphemes produced by Italian children (and their frequencies), but not one suggestion as to the rule system of early Italian. Are subjects optional or obligatory? Do Italian children have morphological rules or not and what do they look like? P&C argue that their data do not support the notion that the children have syntactic categories. Are they, then, supporting theories which espouse a semantically based system? If so, how do they account for their own data?

Neither is it the case that parameter models preclude individual variation across languages or children. Certain aspects of development are claimed to

[6] See Hyams (1992) for further discussion of 'gradualness' in language acquisition and the implications for principle-and-parameter models.

be universal, e.g. the initial setting of the pro-drop parameter (Hyams, 1986a); others will vary across languages, e.g. acquisition of modals, morphology, etc. And clearly individual children will show variation in the rate and manner of acquisition, especially with respect to the acquisition of lexical properties (see Hyams, 1992).

Thus, the 'all-or-none' issue is not at all what distinguishes parameter-setting models from the cognitive/information-processing theories, contrary to what P & C imply (508). ALL developmental models must account for the obvious fact that development is not instantaneous. What distinguishes the two approaches is that parameter-setting models, and generative, nativist models more generally, try to provide an account not only of the intermediate stages in development, but also for the initial and final states. Every normal child turns into an adult with a grammatical system which is vastly underdetermined by the available data. The latter problem, the so-called 'logical problem of language acquisition' is simply never addressed within the cognitive/information processing theories espoused by P&C.

REFERENCES

- Bates, E., Bretherton, I. & Snyder, L. (1988). *From first words to grammar: individual differences and dissociable mechanisms*. Cambridge: C.U.P.
- Bellugi, U. (1967). The acquisition of negation. Unpublished doctoral dissertation, Harvard University.
- Berwick, R. (1985). The acquisition of syntactic knowledge. Unpublished doctoral dissertation, MIT.
- Bloom, P. (1990). Subjectless sentences in child language. *Linguistic Inquiry* 21, 491-504.
- Bowerman, M. (1973). *Early syntactic development*. Cambridge: C.U.P.
- Brown, R. (1973). *A first language*. Cambridge, MA: Harvard University Press.
- Chien, Y.-C. & Wexler, K. (1990). Children's knowledge of conditions on binding as evidence for the modularity of syntax and pragmatics. *Language Acquisition* 1, 225-95.
- Frijn, J. & de Haan, G. (1991). The development of verb movement and inflection in Dutch. Unpublished manuscript, University of Groningen.
- Grimshaw, J. & Rosen, S. (1990). Knowledge and obedience: the developmental status of the binding theory. *Linguistic Inquiry* 21, 187-222.
- Grodzinsky, Y. (1990). *Theoretical perspectives on language disorders*. Cambridge, MA: MIT Press.
- Grodzinsky, Y. & Reinhart, T. (forthcoming). The innateness of binding: a reply to Grimshaw and Rosen. *Linguistic Inquiry*.
- Hyams, N. (1984). Semantically-based child grammars: some empirical inadequacies. *Papers and Reports on Child Language Development* 23, 58-65.
- (1986a). *Language acquisition and the theory of parameters*. Dordrecht: Reidel.
- (1986b). Core and peripheral grammar and the acquisition of inflection. Paper presented at the 11th Annual Boston University Conference on Language Development.
- (1987). The theory of parameters and syntactic development. In T. Roeper & E. Williams (eds), *Parameter setting*. Dordrecht: Reidel.
- (1988). A principles and parameters approach to the study of child language. *Papers and Reports on Child Language Development* 27, 153-61.
- (1992). Discreteness and variation in child language: implications for principle and parameter models of language development. In Y. Levy (ed.), *Proceedings of the workshop on cross-linguistic and cross-population contributions to theories of language acquisition*.
- Hyams, N. & Wexler, K. (forthcoming). On the grammatical basis of null subjects in child language. *Linguistic Inquiry*.
- Jacobowicz, C. (1984). Markedness and binding principles. *Proceedings of the Northeastern Linguistics Society* 14, 154-82.
- McDaniel, D. & Maxfield, T. (1991). Principle B and contrastive stress. Unpublished manuscript, University of Southern Maine.
- Miller, J. (1981). Procedures for analyzing free-speech samples: syntax and semantics. In J. Miller (ed.), *Assessing language production in children*. Baltimore: University Park Press.
- Roeper, T. & Williams, E. (1987). *Parameter setting*. Dordrecht: Reidel.
- Schlesinger, I. M. (1971). Production of utterances and language acquisition. In D. Slobin (ed.), *The ontogenesis of grammar*. New York: Academic Press.
- Valian, V. (1992). Syntactic subjects in the early speech of American and Italian children. *Cognition* 40, 21-81.
- Wexler, K. & Manzini, M.-R. (1987). Parameters and learning in binding theory. In T. Roeper & E. Williams (eds), *Parameter setting*. Dordrecht: Reidel.