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Parameter setting within a socially realistic linguistics

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ABSTRACT

This article considers the theoretical and practical relationship between core linguistics and sociolinguistics in relation to the emergence of Principles and Parameters Theory. Parameters were introduced into core Chomskyan linguistics in an effort to account for variation between languages. However, as we argue – and as has long been known in sociolinguistics – languages (French, Italian etc.) are social rather than abstract products. In this sense, core linguistics may need to pay more attention than it has in the past to aspects of actual variation in order to understand the limits and range of parameters. Thus we argue that dialects of languages in themselves have parameters, and as such may be defined within parametric limits. Here we believe there is something of interest to sociolinguists, in terms both of structural definitions and of overall historical development. In general, then, while variation has always been central to sociolinguistics, it is now central, in one sense, to core linguistics; and here we have the opportunity to explore ways in which sociolinguistics and core linguistics may relate to each other in their interest in variation. (Parameters; variation; dialect; Belfast; Ireland)*

Labov (1972:183) has argued that the use of the term sociolinguistics "is a somewhat misleading use of an oddly redundant term." The problem as Labov sees it, is that the term "sociolinguistics" implies somehow that there might be a linguistics, or a study of language, which does not consider language socially. For Labov, the study of linguistics proper is sociolinguistics. From another perspective, that of Chomsky 1986, 1995, language is essentially a product of the mind/brain,[1] a genetically endowed system which allows human beings to process and develop the complex structures of language. Linguistics, or the study of language, in this case is the generally abstract study of the organization of individual grammars as they reflect universal principles.

Over the years these opposing viewpoints have developed in separate directions. Labov has led the production of sophisticated accounts of variation and change within language by studying language in real time. Chomsky and his followers have produced ever more abstract and elegant theories of language as a biological product, to the extent that some scholars are beginning to discuss the

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possibility of locating a grammar gene (cf. Pinker 1994, Smith & Tsimpli 1995). Despite essential differences in philosophical stance, Labov has never disagreed with Chomsky on a formal level; it is rather at the methodological level that there are disagreements. Chomsky has favored the study of individual intuitions, abstracted away from real time interaction, whereas Labov has emphasized the importance of REAL data and explicitly challenged the use of intuitions as a way of accessing relevant linguistic material. Chomsky has never rejected the study of language in its social context; he has just never been convinced that it has anything to offer our search for an understanding of the underlying rules and processes of linguistic knowledge (see Chomsky 1976).

There have been few real attempts to marry these seemingly divergent positions. From the viewpoint of sociolinguistics, Sankoff 1988 suggests that variationist attempts to influence generative views of syntax have been singular failures. More significantly, he argues that any attempt to marry these two perspectives would be to miss the point of work on variation, which should be centered on critical and social outcomes – for example, the relationship between linguistic choice and such issues as power, status, and social class.

Despite all this, there is a sense in which issues of VARIATION have become central within a Chomskyan view of language. As part of the Principles and Parameters approach to core linguistics, Principles and Parameters Theory was introduced to take account of language variation (see Chomsky 1981), in both general and developmental terms. It was offered not only in explanation of language diversity, but also in the description of interim grammars displayed by children at various stages in their acquisition of the equivalent adult form (e.g. Manzini & Wexler 1987, Meisel 1995). The Principles and Parameters approach of Universal Grammar (UG) replaces the earlier RULES-based model of generative syntax. As the rules became more complex and varied, it was increasingly unclear how children could acquire such systems of rules. Further, the uniformity of acquisition under conditions of blindness, deafness, or multilingualism, and even in certain conditions of neurological deficit, suggested a genetically endowed basis for UG. It is now clear, at a developmental level, that whatever theory of grammar emerges within the generative enterprise, it must account for the fact that input into the emerging linguistic system is variable in several different respects. First, it is variable as to which language is being learned; second, it is variable where more than one language is being learned; and third, it is also variable, we would argue, within monolingual contexts relative to the dialects operating within such contexts. But how does this interest in language variation sit with the work on variation which has been ongoing in sociolinguistics for many years? Is it possible that, as generative theory attempts to account for variable output in terms of specific parametric aspects of the internal system, there is an opening up of vistas of commonality between the concerns of generative linguistics and sociolinguistics? We believe this to be the case, and in this article we argue that the integration of insights from generative linguistics and sociolinguis-

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tics will advance our understanding of both the underlying system of language available to all human beings, and the way in which this system becomes worked out in the social contexts of everyday life.

VARIATION IN (SOCIO) LINGUISTICS

Variation within sociolinguistics generally refers to work on the covariation between selectional choices within the linguistic system, and how these relate to social factors such as geographical region, social class, age, and sex (see Fasold 1990, Wardhaugh 1992). The concept of a SOCIOLINGUISTIC VARIABLE refers to available ways of saying the same thing; for example, (ing) in a word like *thinking* might be realized as either [n] (*thinkin*) or as [ŋ] (*thinking*), the alternatives being seen as VARIANTS of the variable (ing). The relative distribution of such variants is found to correlate with dimensions of style, class, age etc., and further to be constrained by internal aspects of linguistic structure. For example, monosyllabic words such as *sing* and *ring* do not arise with an [n] form.

Now the study of such variation explicitly begins from the assumption that language is essentially a social phenomenon – in Labov's terms, a SOCIAL FACT. The aims of the work are to understand issues of language development and change, and to describe and explain how language operates within social contexts of interaction.

When one comes to look at what variation might mean within a generative tradition, things look radically different. Chomsky 1965 already made clear that he was not interested in how people employed language in everyday contexts. He wanted to abstract away from the complexities of the PERFORMANCE environment and work instead within the environment of a single speaker within a homogeneous speech community – a fiction, of course, but a process, argued Chomsky (1980), that was quite normal within the scientific enterprise. As an extension of the same point, Chomsky did not necessarily see language as a social fact; indeed, he explicitly questioned the value of the term LANGUAGE.

> If the study of language is to be pursued in a serious way it is necessary to undertake a series of abstractions and idealizations. Consider the concept "language" itself. The term is hardly clear; "language" is no well defined concept of linguistic science. In colloquial usage we say that German is one language and Dutch another but some dialects of German are more similar to Dutch dialects than to other, more remote dialects of German. We say that Chinese is a language with many dialects, and that French, Italian and Spanish are different languages. But the diversity of Chinese "dialects" is roughly comparable to that of Romance languages. ... In the natural sciences, it is common to adopt what has sometimes been called the Galilean style, that is, to "construct abstract mathematical models of the universe to which at least the physicists give a higher degree of reality than they accord the ordinary world of sensations" (Weinberg, 1976). A comparable approach is particularly appropriate in the

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> study of an organism whose behavior, we have every reason to believe, is determined by the interaction of numerous internal systems operating under conditions of great variety and complexity. Progress in such inquiry is unlikely unless we are willing to entertain radical idealization, to construct abstract systems and to study their special properties, hoping to account for observed phenomena indirectly in terms of properties of the system postulated and their interaction. (Chomsky 1980:217–18)

The problem with all forms of abstraction, however, is that they remain abstractions, unless, as Chomsky implies in his last statement, they are brought back into the real world as explanations of behavior. Equally, if one only observes and logs behavior, then one would ultimately require a theory to explain such behaviors in a predictive fashion. Research within generative linguistics has been driven from a mainly deductive perspective, while sociolinguistic reasoning has been more centrally inductive. The fact is, however, that the progress of knowledge requires a sensitivity to the options provided by both alternatives. Einstein argued, for example, that as the findings of inductive exercises increase, there is a corresponding need for the development of a deductive program of thinking to subsume the inductive results within a general theory, which in turn would contain a systematic explanation of these results and allow for the prediction of further results. Alternatively, however, the renowned mathematician John von Neumann suggested that those disciplines which become overly formal (deductive or hypothetico-deductive in Chomsky's terms) lose their way and must eventually return to whence they came (were generated) – i.e. to some original empirical concern (for a discussion of this point in relation to linguistics, see Wilson 1993). In Chomsky's case, his arguments about abstraction notwithstanding, one core original concern was how children acquire language when the input they receive is considered underdetermined and degenerate. Of course, whether such input is degenerate or not is an empirical rather than abstract question. We cannot answer it without looking at the kind of input children receive in the process of acquiring language.

The so-called Plato's problem has been pursued by Chomsky in terms of the abstract nature of the internal structure available to children facing the task of learning not just a PARTICULAR language but ANY human language. This research program has been very productive in theory construction, but the theory must ultimately be returned as an explanation of children's behaviors; this obligation forces scholars back to the real world of language acquisition and, naturally enough, back to the thorny issue of LANGUAGE itself.

Within the Principles and Parameters approach to UG, this is what has been happening. The general principles of UG would not of themselves account for the variation found between languages. As Williams 1987 points out, they are UNDERSPECIFIED. It is in this context that parameters operate, allowing the grammarian to account both for the variation between languages and for that within language

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acquisition in the same language. Now, however, we are forced to talk of LANGUAGES and LANGUAGE. Does this mean that Chomsky has now been forced back to considering the problems of languages and language with all their inherent difficulties of definition and location, generated mainly by the inherent variability of language itself? Well, not really. It seems that in discussing differences in parameter setting between languages we have a commonsense view, that there simply are such languages as French, Italian, or Icelandic. At one level of abstraction this may be acceptable; there are certainly enough gross similarities within the standard forms of these languages to allow for comparative research. But the question we would raise from a sociolinguistic perspective is that the concept of a STANDARD form of language (i.e. French, Italian, or Icelandic) is not a theoretical abstraction, but a socially driven one.

Standard forms of any language are social constructs. They are also forms of language within which optional variation is suppressed, often for social rather than linguistic reasons (see Cameron 1995). For instance, one might argue that Standard English is merely one dialect from a range of others (see Chambers & Trudgill 1986, Hudson 1992).[2] Now, this may prove irrelevant to the generative enterprise of UG. If the variation among the dialects of English reflects a process operative outside Principles and Parameters theory – i.e., if it is a form of variation learned at a socio-cultural level, as opposed to the type of variation set by genetic principles of general linguistic endowment – then there is nothing of interest for Principles and Parameters Theory in the process. Chomsky argues that, unless children would not learn language in a homogeneous speech community, thinking about acquisition as if it were taking place in such a community is perfectly acceptable. However, if a key part of the language acquisition device is designed to enable it to cope with variability, then by excluding variability we may be omitting valuable evidence about the very nature of language. What if parameters actually play a role in determining the limits of variability? In this case, to sacrifice the study and analysis of dialect variation on some altar of constrained abstraction would be to ignore evidence relevant to the substantiation of the very theory of UG itself. Chomsky is right when he notes that the concept of language is notoriously difficult to define or constrain, but there is more than one way to abstract out the complexities of the problem we face, and one way of considering this is given by the social facts of language variation, i.e. by sociolinguistics.

SOCIALLY REALISTIC ABSTRACTION

If, as is clearly accepted within Principles and Parameters, languages vary relative to the distribution and setting of parameters, then such settings are in part an account of difference. Principles and Parameters theory explains not only differences between languages, but also how such differences are possible. Further, it offers insights into how such differences might be acquired as part of the overall process of language acquisition.

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Consider the classic example provided by Hyams 1986, of how children come to distinguish between what are called [+null subject] (or pro-drop) languages and [−null subject] languages. The latter class of languages, including English, require overt subject in tensed clauses; they differ from [+null subject] languages, such as Italian and Spanish, where the overt expression of subject pronouns is not required (examples from Atkinson 1992:106; cf. Jaeggli 1982, Riemsdijk & Williams 1986):

(1) Italian
parlo '(I) talk'
parli '(you) talk'
parla '(he) talks'
parliamo '(we) talk'
parlate '(you pl.) talk'
parlano '(they) talk'

(2) Spanish
(a) *Baila bien.* '(He/she) dances well.'
(b) *Estamos cansadísimos.* '(We) are very tired.'

As well as allowing null subjects, such languages also allow for FREE INVERSION of subjects in simple sentences, as in Italian *ha mangiato Giovanni* 'Giovanni ate.' Further properties claimed for these languages include long WH-movement and empty resumptive pronouns (Meisel 1995:12). These properties are not, however, readily available in a language like English; therefore, children learning English must somehow set the parameter for their language as [−null subject], while Italian or Spanish children must set their parameter as [+null subject]. But how is this done?

Hyams 1986 suggests that children are provided with a default value of the parameter as [+null subject], and only later will this be re-set in the light of input (in the case of learning English, for example). The evidence for Hyams's claim is based in part on observations that children learning English seem to go through a phase in which they treat subjects as optional. Hyams (1986:63, 65ff; cf. Atkinson 1992:113) cites data from children such as the following:

(3) a. throw away
b. make a house
c. helping mommy
d. read bear book
e. sit on piano
f. make a choo choo train

Since such children will also, at the same time, make use of overt subjects, we have here what has been called the "early English as Italian hypothesis." Basically, the grammar available at the early stages for children acquiring English allows for subject omission.

This proposal has been challenged, however, for a variety of different reasons. For example, it has been argued by a number of scholars that parameters cannot be re-set (see Clahsen 1991, Muller 1994). If this is correct, then it causes severe problems for Hyams's account. Further, it is possible, as argued by Lebeaux 1987

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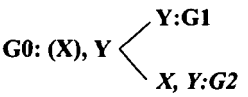


FIGURE 1

(cf. Meisel 1995), to explain the behavior of children learning English without assuming that there is a single default value, or indeed that all values are simultaneously accessible. Lebeaux has suggested that the initial grammar allows access to default as well as alternative values, a specific value being set only in the light of the evidence from input. The drawing in Figure 1 "amounts to saying that G0 preserves the initial state in which a value (X) is ordered before the default value Y. In the setting G1, option X is erased, leaving only the default value Y. In the setting G2, the brackets indicating optionality are erased, X applies and overrides Y" (Meisel 1995:12).

The general findings suggest that Principles and Parameters theory allows for variation in language through the different setting of parameters, and that in learning a language one can map this process in terms of changes within the emerging system. As a consequence, and at a gross level, what distinguishes between languages in this theory is the differential setting of parameters along with language-specific learning features. For example, whether or not a language has prepositions may be a category instantiation at the level of parameters; the lexical realization of the forms for representing prepositions will be a language-specific issue.

This all seems both rational and reasonable, except that we are clearly talking about different languages as unproblematic constructs, something Chomsky wished to avoid. Considering the various dialects of English, are we saying all forms of English must have a specific set of parameters? If so, then parameters may become defining features of what is and what is not a language type. If this is true, then many of the classic political, cultural, and other arguments about the language spoken by either groups (dialects) or individuals (idiolects) might be considered in terms of access and the use of differing sets of parameters. But, of course, the argument is not that simple. The data one makes use of in deciding which parameters belong to English are given either by the context in which the data arose, or by the intuitions of the analyst. Both are affected by social constraints in one form or another. The problems involved in using intuitions have been described in detail elsewhere, and we need not consider them here (see Labov 1972). More importantly, if theoretical linguists attempt to explain variation in the light of constraints operating within languages, they must also take account of the social reality of languages, i.e. that they are abstractions, in this case from the social reality of inherent diversity. To raise the question again, what if specific dialects of English can be shown to have their own parameter settings, with their own specific cluster effects? In this case, a child acquiring English may

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have to set the parameters not simply for English (or Standard English, the dialect used by most English-speaking linguists), but for a specific dialect of English. If this is the case, and if we accept that dialects have parameters in their own right, then Principles and Parameters theory would provide evidence for the independent language status of dialects, because parameters were introduced to account for differences between individual languages. Equally, if dialects do set their parametric limits, then it would seem useful for theoretical linguists to take account of dialect variation in explaining the necessity of linguistic diversity within UG (Hale 1995).[3] If we can show that dialects may be described within a Principles and Parameters model, then theoretical linguists and sociolinguists might have something to learn from each other. Moreover, by considering the interaction of parameter setting within sociolinguistic variation, we may be able better to understand language variation and change as they are driven by social factors but constrained (at one level) by the nature of possible internal grammars.

DIALECTS AND PRINCIPLES AND PARAMETERS THEORY

From the perspective of Principles and Parameters syntax, and its recent reformulation in the Minimalist Program (Chomsky 1995), the only way in which language varieties can differ from one another, apart from the phonological realization of lexical items,[4] plus some aspects of the phonology,[5] is in relation to parameter settings. There are no RULES in internalized grammars, and so dialects cannot differ in having different rules for a particular construction, or a different order of application of rules. What appear to be rules for various constructions are epiphenomenal and fall out as a consequence of the interaction of universal principles of language with the parameter settings of the specific variety.

This has raised some potential problems in relation to dialect and idiolect differences, given that these appear, descriptively, to be rather SMALL-SCALE, and to affect individual constructions (or indeed individual lexical items), rather than having wide-ranging effects across the variety as a whole, as might have been envisaged from early formulations of parameter theory. We do not generally find within a community a small range of distinct dialects, each differing from the others in a range of related ways, but rather a range of differences across the community, none of which necessarily co-occurs with any other difference. The early hope that it might be possible to find dialects which had a wide range of superficial differences, all of which could be accounted for by a single difference in parameter setting (Beninca 1992), has not been realized.

As noted above, the framework envisages the only real object of study as being the internalized grammars of individual speakers, although in practice the research methodology has involved the study of differences between languages, even though these are viewed essentially as abstractions. There has been surprisingly little study of dialect differences, particularly in relation to English, and the theory has been developed largely by comparisons between different standard

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languages. The question thus arises whether the theory, built on the study of differences between languages, is sufficiently fine-grained to accommodate the myriad kinds of differences found between dialects, and even more between individual idiolects; if there is only a small number of parameters, is this sufficient to account for the large variety of differences observed?

There have been a number of attempts to account for dialect variation in terms of parameter setting. Beninca 1992 looks at the differences between Italian dialects in this framework, and Kayne 1994 provides an account of subtle differences in the choice of *be* or *have* as a perfect auxiliary in a number of dialects of Romance languages. Henry 1995, 1996 shows that the kind of variation found between Standard English and a non-standard variety, Belfast English, is of broadly the same type as that found between different languages. Thus languages may differ in whether or not they have verb-raising to C (the well known verb-second effect in the Germanic languages).[6] Henry 1995 shows that Belfast English, which like standard English lacks the general verb-second effect, differs from standard English in that in the former, verb-raising to C is possible in imperatives, whereas in the latter it is not. Thus, in Belfast English inverted imperatives of the following type are possible.

(4) Read you that.

(5) Go you away.

Henry 1995 shows that there are two possible grammars in Belfast in relation to inverted imperatives. One allows inversion with all verbs, so that sentences like 4 are grammatical, and in this it is argued there is movement of the verb to C, similar to what happens with all verbs in the Germanic verb-second languages, where movement to C is obligatory in all matrix clauses. This triggers other properties found in those languages, e.g., the movement of object pronouns out of the verb phrase:

(6) Give you me quickly that paper.

(7) Throw us you your end there.

In the other variety, only unaccusative verbs (roughly, intransitive verbs of motion) allow inversion; in these, it is argued, the subject is base-generated in post-verbal position, and subject-raising is not obligatory. Thus there are, formally, two differences in parameter settings from standard English:

(a) The (phonetically null) imperative morpheme which occurs in the C position is optionally strong in Belfast English (triggering verb raising to C in imperatives) in one dialect.

(b) The subject in Belfast English is not forced to raise to SPEC/AGR; therefore in imperatives, which lack Tense, it is not forced to raise at all, and remains in situ in its D-structure position.

A process of change seems to be in process here, whereby the full inversion dialect, which allows inverted imperatives with any verb, is now restricted largely

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to older speakers. Henry 1995, 1996 attempts to explain this change by pointing out that the movement involved is, in parametric terms, an anomaly within the dialect. Belfast English, like other forms of English, in general does not allow the main verb to move in front of the subject:

(8) *Went she home.

Even in questions, a full lexical verb cannot appear in front of the subject: Inversion in questions is restricted to auxiliaries.

(9) *Explains this matter?

(10) Does this explain the matter?

Thus adopting a grammar with inversion in imperatives involves noting that imperatives are an exception: This construction in effect has its own parameter setting. A simpler grammar would have a single parameter setting in relation to verb movement to C, rather than one setting for the majority of cases and a different one for imperatives. Thus inversion in imperatives is marked and liable to disappear. An understanding of parameter setting, then, can help us understand why a structure should be vulnerable to change. Moreover, it can help explain the direction change takes. Principles and Parameters theory offers a rather limited range of possibilities in relation to the analysis of a construction showing verb–subject order. If movement of the verb in front of the subject is a disfavored possibility, and children as part of the development of their grammar have sufficient input of inverted imperatives that it is impossible for them to ignore this structure, then there is only one alternative grammar available to the child: that where the subject originates after the verb, and does not raise out of that position. It is only with a certain type of verb – unaccusatives – that this is possible, and it is precisely that group of verbs which allows inversion in the grammar adopted by many (mostly middle-aged and younger) speakers.

As Henry 1995 points out, there is as a result a very limited number of possible grammars in relation to imperatives. Thus there is a grammar in which all verbs move in front of the subject, and there is a grammar in which only subjects of unaccusative verbs can appear postverbally. Henry 1997 suggests that simply looking at data pooled across speakers would be misleading in this regard, and would make it difficult to explain why the change is taking the direction it is. Many unaccusatives are verb–particle combinations:

(11) Go you away.

(12) Sit you down.

Thus pooling data from speakers of both dialects (the one allowing inversion with all verbs, and that allowing inversion only with unaccusatives), as is traditional in sociolinguistic approaches, could lead one to believe that a factor favoring inversion is the presence of a particle. But whereas this is true at a descriptive level, it does not reflect the reality of speaker's grammars, nor the direction of linguistic change. Thus no speaker seems to have a grammar which allows inversion only

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where a particle is present, and this is not the direction of change. To understand how change is progressing, we need to understand not only the sociolinguistic factors operating, but also the constraints on possible grammars offered by the nature of the language faculty as envisaged within Principles and Parameters theory.

Clearly, although the POSSIBLE INTERNAL GRAMMARS which are the outcome of change are constrained by possible parameter settings, there are also sociolinguistic factors; in particular, the vulnerability of structures to change reflects not only their markedness but also their degree of frequency in input and their value as sociolinguistic markers.

To take another example, Belfast English shows SINGULAR CONCORD (Policansky 1976, Finlay 1987, Henry 1995), with the singular DEFAULT form of the verb able to appear with plural, non-prenominal subjects.

(13) The doors is closed.

(14) The kids goes to a wee club on Fridays.

It has generally been claimed (Policansky 1976) that this is more likely to happen if the subject is after the verb or separated from it. In general, sociolinguistic studies have included the use of the singular with existential *there* in studying the singular concord phenomenon:

(15) There's books on the table.

(16) There's some students looking for you.

However, according to Principles and Parameters theory, we have two separate phenomena here; the occurrence of the singular with existential *there* relates to a different parameter setting than that which determines the availability of the singular elsewhere. Thus a language like French has a singular verb in existentials but does not otherwise allow singular concord.

(17) *Il y a trois livres sur la table.*
'There is (lit. has) three books on the table.'

(18) **Les étudiants a trois livres.*
'The students has three books.'

Principles and Parameters theory would predict that the availability of singular concord would be different in existentials and other sentences, and indeed this is what we find. Many speakers of English who can use singular verbs with existential *there* do not have singular concord in other constructions. We are presently involved in a study of the acquisition of English in Belfast (Henry & Wilson 1995), and all of the parents in our study (N = 10) have obligatory singular verbs with existential *there*, but optional singular concord, used on average in 33% of possible environments. Thus, for them, agreement in sentences with existential *there* is invariant, whereas there is variability in other types of singular concord. Moreover, singular concord in general seems to be disappearing as the language changes, whereas the use of singular verbs with existential *there* and a plural associate is very robust and seems indeed to be spreading to middle-class speak-

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ers. The direction of change could be obscured if we did not take into account the fact that we have two different parameters involved.

If we were to take a group of Belfast speakers and consider the use of singular concord, because there are speakers for whom singular concord is obligatory with existential *there*, we would find a community grammar in which it appeared that there was a single process of singular concord, but that this was favored where the subject followed the verb, as in existentials. However, this would not reflect what is actually happening in the grammars of individual speakers, nor would it enable us to explain how change is progressing.

We have seen that, of the possible parameter settings allowed by UG, Belfast English makes a slightly different selection from Standard English, although many of the parameter settings are similar. The ways in which Belfast English differs from Standard English are exactly the kind of ways in which standard languages differ from one another, and there is nothing special from the point of view of the theory about dialect variation as distinct from language variation.

Thus most parameter settings are similar for Belfast English and Standard English – neither is pro-drop, and neither has generalized verb raising to C – but there are differences. One variety of Belfast English has a STRONG imperative morpheme, and thus raising of the verb to C in imperatives, for example.

The ability of the theory to handle dialect variation has been enhanced by a change in how the nature of parameters is envisaged; this has undergone a subtle shift since the original proposals for the pro-drop parameter. Although the type of possible parameters has become more highly constrained, they are no longer necessarily envisaged as having wide-ranging effects throughout the grammar. Chomsky 1995 suggests that the only possible differences between grammars relate to whether or not elements move (overtly) out of their original position. This depends on the strength of functional elements; these can have STRONG or NON-STRONG D- and V-features, which in turn determine whether lexical elements will raise overtly to them. Strong features must be checked. Thus the only possible differences relate to the displacement of elements from their original positions in the sentence. These differences are determined for each functional element independently, and for D- and V-features independently,[7] so that a change in setting has a relatively small impact on the language. That this is the correct move seems to be reflected in the findings on the variation between dialects and between idiolects: The differences we see between one grammar and another may relate to a single aspect or construction type.

There is no definition of a LANGUAGE or a DIALECT in Principles and Parameters theory (nor indeed within sociolinguistics, where dialect is seen as a prescientific notion), though presumably there is a sense in which a variety that has most parameter settings in common with another is closer to it than one in which most settings are different. There is certainly no notion that DIALECTS or IDIOLECTS are in their nature different from languages, or less valued, or deviations from standard languages. Because the object of study is the grammar of the speaker,

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any variety of grammar is as valuable as any other. There is no notion of CORE PARAMETERS (which are common to one language) and small, peripheral parameters along which dialects may differ. Children approach the acquisition task equipped with a knowledge of possible parameter settings, and whether the input is a standard language or not, they proceed to acquire language in the same way.

Considering the arguments made above, we would suggest, at the very least as a heuristic for the types of factors which may favor application of a rule, that the Principles and Parameters approach may prove valuable. At a deeper level, it may explain, when taken in conjunction with sociolinguistic factors, why change appears to be moving in a particular direction. The child acquiring language is faced with a community grammar, the product of the grammars of a range of different speakers, but must analyze this and forge an individual grammar using an acquisition device which includes parameter-setting mechanisms. In one sense we can see the acquisition process as affected by two factors: the need to adopt a grammar which is optimal in terms of the learning device, and the need to adopt a grammar which matches that of the speech community in which the child will need to be considered a native-speaker member.

PARAMETERS IN CORE LINGUISTICS AND SOCIOLINGUISTICS

There are a number of implications for sociolinguistics in our discussions, and we would like to consider these here. We might note first that sociolinguists in the early 1970s often situated their work as a counter to the domination of the Chomskyan framework within linguistics (cf. Labov 1972, Trudgill 1974, 1978); and at one level of debate, the efficacy of variable rules was seen to interact with the general line of theory building established by Chomsky (cf. Bickerton 1971, Berdan 1975). Since that time, however, sociolinguistics has clearly established itself not simply as a counter to Chomsky; many scholars now see it as what linguistics itself should be about (see particularly Trudgill 1974, 1983). As a consequence, many sociolinguists have been less than interested in the ever more abstract developments of the generative perspective. And the question is, why should they be interested now?

Consider, however, that the parametric viewpoint applied at the level of dialect suggests that languages and dialects may be defined in part by degrees of commonality or difference. What we mean here is that dialects of English may share certain parametric selections reflecting that they are dialects of English. At the same time, those differences they reveal, as in the case of Belfast English, indicate at one level of grammar the type of dialect they are. If correct, this has significant ramifications for dialectology and sociolinguistics. It suggests that dialects, often seen in purely social terms, are also, in one sense, forms constrained and partly defined at the level of grammar by internal operations of the language faculty. This view of parameters offers us an opportunity to move forward (admittedly only at one level) our prescientific notions of dialect and language.

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An early assumption in sociolinguistic theorizing on dialects followed the classic variable model wherein all variants of a given variable should share "sameness of (cognitive) meaning" (Labov 1972:271). At the level of syntax, this presupposed that differences found within a non-standard variety had equivalents within the standard grammar; this in turn meant that non-standard variants were embedded within structurally equivalent grammars. However, as noted by Harris (1996:32),

> As the body of research on non-standard syntax increases, it is becoming more and more evident that a good deal of dialect diversity at this level cannot simply be attributed to low level differences. Rather it points to the conclusion that deep seated structural divergences exist between varieties which are intuitively felt to be dialects of the same language.

In an analysis of tense and aspect in Hiberno-English, Harris shows that the patterns which emerge do not simply reflect a modification of the standard dialect but reveal a complex interaction of effects, both from Irish as a substratum language and from historically older English patterns. In a similar way, we can argue that the work of Henry 1995 points quite clearly to the independent parametric status of choices available to speakers of Belfast English. These choices are not variants of the standard but separate from that standard, being part of a separate grammar, here not only in a social and external sense, but also in a cognitive and internal sense. We might suggest, therefore, that aspects of the Belfast dialect are independently motivated through the interaction of social constraints (input conditions) and internal grammatical processes (the language faculty).

We can see in this suggestion echoes of the point raised above in relation to induction and deduction. We cannot fully explain language only as an internal object, any more than we can fully explain language only as an external object. The operation of language in the real world reflects the need to consider internal and external issues in explaining everyday linguistic processes. Chomskyan approaches often ignore external issues such as language use, and they have been criticized for that by sociolinguists. Now that Chomskyan views have begun to include the concept of variation in the form of parameters, it is important that sociolinguists consider what this actually means, even if only to reject such a perspective in the end.

Critics who argue against us, either for bothering with data in the first place (formal generativists), or for not having a fully articulated account of the surface data of Belfast English (core sociolinguistic variationists),[8] would both be ignoring the interaction of internal and external factors. We are not arguing that the systematic variation found within Belfast English, or other dialects, may be explained ONLY by invoking parameters. Parameters are only one part of the equation, both within the internal grammar (or indeed within a modular view of the mind and its processing abilities) and within the general analysis of dialects.

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Consider again Harris's carefully argued case (1996) for the structural pattern of tense and aspect in Hiberno-English. As he himself admits, the Belfast data for his study are limited, partly because of the difficulties faced in accessing syntactic data at the level of sociolinguistics. This is an important point. Syntactic variables occur much less frequently within language data. This is a problem not only for an analyst, but also for a child attempting to access language input relevant to the acquisition process. For the child involved in the complex task of acquiring the syntax not only of the appropriate language, but also of the appropriate dialect, a system of parameter setting might make the task more achievable. We are not suggesting, however, that such a parameter system would be the only element involved in dealing with variable input.

In the complexity of natural language, different linguistic systems operate alongside one another. The IMPERATIVE constraints claimed by Henry as parametric are not the only features of Belfast dialect. There are other syntactic, lexical, and phonological dimensions, many of which will not be explicable within core Principles and Parameters theory. The fact that some might be is what is important to us now. But what is in this for the sociolinguist? We would suggest a method not only for explaining why some sociolinguistic data may be as they are, but also for relating such an account to general rules and principles of natural language, as well as processes of language acquisition.

Equally, in what we are suggesting there are strong implications for core linguistics. Our view of dialects suggests, for example, that the language faculty is designed to accommodate a community grammar. By this we mean that the language faculty could only have evolved as it has, with a requirement for a parametric system, because of the need to accommodate to the variation found within natural language production. If this is correct, it produces an alternative view to the accounts of Chomsky and Labov given at the beginning of this article. What we seem to have is not simply a choice between an individual grammar or a community grammar; rather, we have an interdependent relationship between the internal grammar and the community grammar. This is not a standard competence/performance relationship or I-language/E-language dispute, but a fundamental challenge to the operation of the frequently distinct areas of core linguistics and sociolinguistics. In the case of core linguistics, there is a need to recognize that parameters exist only because variation is the norm within human languages. The type, range, and limits of parameters, along with our understanding of their relationship with the core principles of universal grammar, can surely be fully worked out only by exploring the limits of language variation in both "time and space," to borrow the phrase of Labov 1994 (and this allows for more than one method of analysis of such variation). Equally, some of the syntactic variation painstakingly charted by sociolinguists may reveal different operating principles set in differing ways depending on their conditions of acquisition (more on this in a moment).

This raises two questions in relation to the distinction drawn between sociolinguistics and core linguistics of a Chomskyan type. First, if our observations

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above are in the right direction, then, in a crude sense, Principles and Parameters theory suggests that the mind/brain is endowed with a program sensitive to community grammars. In one respect, the internal grammar is genetically designed to fall out as a community grammar. It is not just that competence is reflected in performance, or in more contemporary terms that "the language faculty is embedded in performance systems which access the generative procedure" (Chomsky & Lasnik 1995); the question is why parameters are embedded as part of the language faculty in the first place. Chomsky and others have continually argued that performance features are not necessarily relevant to the study of our underlying linguistic competence. However, to talk of a homogenous speech community is to presuppose a community within which there is no variation. Presumably, in a homogeneous speech community parameters would not need to be set precisely because there is no variation. If, as is theoretically possible, we took such a community in the abstract to represent our own world, there would not be any need for different languages, and once again there would be no need for parameters. Parameters were introduced to account for language variation, so where there is no variation there are no parameters. Equally, if one argues that the central area of interest is grammar located within the individual as opposed to the community, then where one focuses on the individual grammar, the community is excluded. However, the analysis of an individual grammar, through the use either of intuitions or of actual data, would have access only to the use of parameters that had already been set, i.e. an adult grammar (unless one were looking at interim grammars in acquisition). By definition, this assumes variation in the original input to generate these intuitions in the first place. Accepting for the moment that Principles and Parameters theory is correct, the foundation of the language faculty must be built in part on a universal need/capacity to seek out variation, and this need/capacity must have evolved over time. Therefore, if we wish to understand how this faculty works and came to be as it is in biological, social, and evolutionary terms, then we need to take seriously all aspects of language variation.

Consider, for example, the model of PROBABILISTIC MATCHING discussed by Labov 1994, which suggests that biological systems are tuned to quantity. Such a system is highlighted by Labov as one possible component in an explanation of children's ability to acquire the same range of probabilistic linguistic choices as their parents. That is, the system is part of what allows them to become members of their linguistic community. Now whatever else probabilistic matching is, it is not a type of formal calculation taught to children. In this sense, we might call it a natural or innate capacity to pay attention to certain distributions. This seems plausible. But saying this denies nothing to the sociolinguist interested in explaining the way in which children come to match the norms of their parents by using empirical methods of data collection. Why then should we not consider the possibility that parameters play a similar, and innate, role at some higher levels of syntax? The value for the organism, as with probabilistic matching, is obvious:

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parsimony and universality combined with flexibility. Further, since certain syntactic forms occur much less frequently than phonological forms in the input a child receives, an alternative process for accessing syntactic patterns, relative to the language that the child is learning, might be more profitable.

Returning to our general arguments in favor of paying attention to parameters, consider again the claims of Clahsen 1991 and Muller 1994 that parameters cannot be re-set for L2; accepting for the moment that this is accurate, interesting questions are raised for both sociolinguistic variation and language acquisition. If, as we have projected above, individual dialects reveal their own parametric limits, then what happens when speakers of these dialects wish to acquire a new or second dialect (this may not be a conscious decision of the type found in acquiring foreign languages). Do dialect speakers face problems at the level of parameter re-setting similar to those of speakers learning second languages? If they do, this would be evidence against the claim of Bailey 1973, 1987 for "polylectal grammars", where the view is that the rules of grammar for a language are valid for any lect of that language. Trudgill 1983 tested such a proposal by presenting sentences of different dialects of English to various groups of English-language speakers, from expert linguists to naïve students, and found their intuitions about possible English sentences wanting. This might now be explained, however, in terms of the matching and understanding of what are acceptable parametric limits for such individuals' community grammars. Where speakers have already set the parameters for their own dialect of English, the limits of their willingness to accept alternative parametric possibilities may be constrained by those set in their original dialect acquisition. This is not to say that dialects cannot be learned, any more than second languages cannot be learned; merely, we might find that there are critical periods for parameter setting in the acquisition of dialects, as argued in the case of languages.

If this were the case, it would offer one interpretation of the ordering effect noted by Chambers 1995 among Canadian speakers living in England who were in the process of acquiring a new dialect. Chambers found that such speakers seem to acquire different aspects of the target dialect in a specific order. For example, gross features of vocabulary are more salient and may be adopted early. Phonological contrasts of a simple nature may be acquired fairly quickly; more complex phonological structures cause more difficulty and may never be fully acquired. In general, however, core syntactic contrasts of the type we are now arguing as parametric would be acquired last, if they are acquired at all. The findings for complex phonological structures, as well as the difficulties presented by syntax in general, suggest that there may be critical periods of learning beyond which elements of the language faculty cannot be re-set or adjusted. In such cases, standard learning mechanisms would be employed, and these have been shown to be much less efficient or successful. There is one sense in which all language acquisition is a type of dialect learning. If this is so, we should not be surprised that acquiring a second dialect and acquiring a second language would

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reveal problems of a similar kind, although there will clearly be differences of degree.

VARIATION AND CONSISTENCY

It is possible, of course, to argue, counter to the above, that the system of the mind/brain adapted for assessing variation must be independent from the production of variation. The system is designed to account for variation of any type, and like UG itself is already pre-wired into the general language faculty. On this basis a classic Chomskyan response might be that because the parametric system is independent of the variation it receives as input, it is best to study it in the normal way, as an abstraction. But this argument will not work so well this time. One cannot talk of a homogeneous speech community with parametric variation; it is a contradiction in terms. It is also difficult to imagine parametric knowledge as simply some type of underlying competence, because parameters by definition presuppose variation. What such variation looks like only makes sense relative to different languages and dialects. All the interesting questions about parameter systems – the limits of their operation, what such systems allow and exclude, whether some parameters are easier to set than others, and so on – only make sense against the background of a wide and detailed understanding of variation processes as they operate both across and within languages.

Looking at the situation the other way round, however, how does our view of parameters and variation sit with the core questions which attract many scholars in sociolinguistics? For example, a major issue within sociolinguistics is the process involved in the social and historical nature of linguistic change. Labov 1994 and Milroy 1992 have clearly grounded many aspects of linguistic change and innovation within the community. Thus Milroy 1992 argues that shifts in sound change may be driven by selected members of social network sets. Most of this work has, however, been at the level of phonology, and little has been said about syntax as such (but see Harris 1996). In terms of our claims above, the interesting question is how change takes place within dialects if parameters are part of the defining features of such lects. Clearly, such changes necessitate a change in the parameters themselves, and this may be charted in the same way as any other socially motivated change.

CONCLUSION

We have suggested that, with the emergence of parameters as a component of Principles and Parameters theory, there is an opportunity to review the way in which "variation" is understood in both core linguistics and sociolinguistics. We have suggested that parameters challenge the very process of abstraction adopted in core linguistics. They raise questions regarding the status of individual grammars, which could only have been formed as the end result of parameter setting on the basis of variable input. In such a context, to avoid information on real-time

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variation is to ignore evidence central to the nature of the very component designed to accommodate variation. This is not a return to the old competence/performance debate. The goal of a COMPETENCE VIEW was to exclude variation, focusing only on underlying knowledge for output. However, where a component of that very knowledge is itself based on the assumption that there is variation in language, it is much harder to see how the role of variation in input can be ignored. Equally, and from the perspective of sociolinguistics, parameters provide another tool for exploring the way in which internal grammars become worked out as community grammars. They offer a formal and syntactic method for considering not only variation between languages but also variation within languages, as in the case of dialects.

The history of the theoretical and practical relationship between sociolinguistics and core linguistics has not always been a happy one. Each approach has been seen as an alternative to the other, and it has never been clear how one marries an emphasis on abstraction with a focus on internal grammars, with an emphasis on actual data and a focus on community grammars. In our view, the emergence of parameters offers an opportunity at least for discussion, since variation is now placed at the center of both concerns.

NOTES

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[1] The term "mind/brain" is now standardly adopted by Chomsky (and others of similar views in cognitive science; see in particular Fodor 1994). This use maintains an original Cartesian mentalism but explains the causal nature of mental states in materialist manner: "The mind/body problem is settled in that we are dealing with the phenomenon of the mind/brain" (Button et al. 1995).

[2] This may be what makes standard forms of specific languages attractive to generativists. Thus the selection of standard languages may be more socio-ideologically driven than it first appears (we are grateful to an anonymous reviewer for drawing our attention to this possibility).

[3] Hale 1995 claims that language varieties make much wider use of the possibilities provided by Universal Grammar than are generally envisaged in that theory.

[4] That is, the well-known Saussurean arbitrariness, which means that there is no necessary connection between the signifier and signified; what is called a *dog* in English may be *chien* in French and so on.

[5] Thus Chomsky 1995, following the claims of Bromberger & Halle 1989, allows that, whereas syntactic variation is restricted to parameter settings, the phonology contains at least some rules which are hypothesized by the learner from the data.

[6] The difficulty here is how would we know when such a data set was complete. Sociolinguistic data sets are frequently based on informant samples from which generalizations can be made, and these generalizations are based on quantifications over the data set. At the level of syntax, such data sets are often extremely limited (see for example Harris 1996).

REFERENCES

Atkinson, Martin (1992). *Children's syntax: An introduction to Principles and Parameters theory*. Oxford: Blackwell.

Bailey, Charles-J. (1973). *Variation and linguistic theory*. Arlington, VA: Center for Applied Linguistics.

https://doi.org/10.1017/S0047404500019709 Published online by Cambridge University Press

_____ (1987). Variation theory and so called "sociolinguistic" grammars. *Language and Communication* 7:269–91.
Beninca, Paola (1992), ed. *Dialect variation and the theory of grammar*. Dordrecht: Foris.
Berdan, Robert (1975). The necessity of variable rules. In Ralph Fasold & Roger Shuy (eds.), *Analysing variation in language*, 11–27. Washington, DC: Georgetown University Press.
Bickerton, Derek (1971). Inherent variability and variable rules. *Foundations of Language* 7:457–92.
Bromberger, Sylvain, & Halle, Morris (1989). Why phonology is different. In Kenneth Hale & Samuel Jay Keyser (eds.), *The view from Building 20*, 56–77. Cambridge, MA: MIT Press.
Button, Graham; Coulter, Jeff; Lee, John R. E.; & Sharrock, Wes (1995). *Computers, minds and conduct*. Oxford: Polity.
Cameron, Deborah (1995). *Verbal hygiene*. London: Routledge.
Chambers, Jack (1994). *Sociolinguistic theory*. Oxford: Blackwell.
_____, & Trudgill, Peter (1980). *Dialectology*. Cambridge & New York: Cambridge University Press.
Chomsky, Noam (1965). *Aspects of the theory of syntax*. Cambridge, MA: MIT Press.
_____ (1976). *Reflections on language*. New York: Pantheon.
_____ (1980). *Rules and representations*. New York: Columbia University Press.
_____ (1981). *Lectures on Government and Binding*. Dordrecht: Foris.
_____ (1986). *Knowledge of language. Its nature, origin, and use*. New York: Praeger.
_____ (1995). *The minimalist program*. Cambridge, MA: MIT Press.
_____, & Lasnik, Harold (1995). The theory of principles and parameters. In Chomsky 1995:13–127.
Clahsen, Harold (1991). Constraints on parameter setting: A grammatical analysis of some acquisition stages in German Child Language. *Language Acquisition* 1:361–91.
Fasold, Ralph (1990). *The sociolinguistics of society*. Oxford: Blackwell.
Finlay, Cathy (1987). *Syntactic variation in the speech of Belfast schoolchildren*. Unpublished D.Phil. thesis, University of Ulster.
Fodor, Jerry (1994). *The elm and the expert: Mentalese and its semantics*. Cambridge, MA: MIT Press.
Hale, Kenneth (1995). Universal grammar and the necessity of linguistic diversity. MIT, MS.
Harris, John (1996). Syntactic variation and dialect divergence. In Rajendra Singh (ed.), *Towards a critical sociolinguistics*, 31–59. Amsterdam: Benjamins.
Henry, Alison (1995). *Belfast English and Standard English: Dialect variation and parameter setting*. Oxford & New York: Oxford University Press.
_____ (1996). Viewing change in progress: The loss of V2 in Hiberno-English imperatives. In Ans Van Kemenaden & Nigel Vincent (eds.), *Diachronic syntax: Functional heads and clause structure*, 80–93. Cambridge & New York: Cambridge University Press.
_____ (1997). Imperative inversion in Belfast English. In James Black and V. Motapanyane (eds.), *Microparametric syntax: Dialect variation in syntax*. Amsterdam: Benjamins.
_____, & Wilson, John (1995). *Language acquisition in conditions of variable input*. Proposal to Economic Social and Research Council.
Hudson, Richard (1992). *Teaching grammar*. Oxford: Blackwell.
Hyams, Nina (1986). *Language acquisition and the theory of parameters*. Dordrecht: Reidel.
Jaeggli, Osvaldo (1982). *Topics in Romance syntax*. Dordrecht: Foris.
Kayne, Richard (1994). *The antisymmetry of syntax*. Cambridge, MA: MIT Press.
Labov, William (1972). *Sociolinguistic patterns*. Philadelphia: University of Pennsylvania Press.
_____ (1994). *Principles of linguistic change: Internal factors*. Oxford: Blackwell.
Lebeaux, David (1987). Comments on Hyams. In Roeper & Williams (eds.), 23–41.
Manzini, Rita, & Wexler, Kenneth (1987). Parameters, binding theory and learnability. *Linguistic Inquiry* 18:413–44.
Meisel, Jürgen M. (1995). Parameters in acquisition. In Paul Fletcher & Brian MacWhinney (eds.), *The handbook of child language*, 10–35. Oxford: Blackwell.
Milroy, James (1992). *Linguistic variation and change*. Oxford: Blackwell.
Muller, Natascha (1994). Parameters cannot be reset: Evidence from the development of COMP. In Jürgen M. Meisel (ed.), *Bilingual first language acquisition: French and German grammatical development*, 235–69. Amsterdam: Benjamins.
Pinker, Stephen (1994). *The language instinct*. New York: Morrow.

https://doi.org/10.1017/S0047404500019709 Published online by Cambridge University Press

Policansky, Linda (1976). Syntactic variation in Belfast English. *Belfast Working Papers in Language and Linguistics* 5:217–31.
Riemsdijk, Henk van, & Williams, Edwin (1986). *Introduction to the theory of grammar*. Cambridge, MA: MIT Press.
Sankoff, David (1998). Sociolinguistics and syntactic variation. In Frederick Newmeyer (ed.), *Linguistics: The Cambridge Survey*, 4:140–61. Cambridge & New York: Cambridge University Press.
Smith, Neil, & Tsimpli, Ianthi-Maria (1995). *The mind of a savant*. Oxford: Blackwell.
Trudgill, Peter (1983). *On dialect*. Oxford: Blackwell.
_____ (1974). The social differentiation of English in Norwich. Cambridge: Cambridge University Press.
_____ (1978), ed. *Sociolinguistic patterns in British English*. Cambridge: Cambridge University Press.
Roeper, Thomas, & Williams, Edwin (1987), eds. *Parameter setting*. Dordrecht: Reidel.
Wardhaugh, Ronald (1992). *An introduction to sociolinguistics*. Oxford: Blackwell.
Weinberg, Stephen (1976). The forces of nature. *Bulletin of the American Academy of Arts and Science* 28:28–29.
Williams, Edwin (1987). Introduction. In Roeper & Williams (eds.), vii–xix.
Wilson, John (1993). The study of communication: Possibly? *Semiotica* 93:123–38.

https://doi.org/10.1017/S0047404500019709 Published online by Cambridge University Press