DOCUMENT RESUME

ED 302 074 FL 017 697

AUTHOR Slobin, Dan I.
TITLE Confessions of a Wayward Chomskyan.
PUB DATE Aug 88
NOTE 7p.; In: Papers and Reports on Child Language Development, Volume 27; see FL 017 572.
PUB TYPE Reports - Evaluative/Feasibility (142) -- Viewpoints (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Child Language; *Grammar; *Language Acquisition; Language Research; *Learning Processes; Linguistic Theory
IDENTIFIERS *Chomsky (Noam)

ABSTRACT

It is proposed that, in contrast to Chomsky's argument, it is possible to arrive at an empirically grounded definition of innate linguistic competence that guides the child in the construction of grammar, particularly when this process is viewed as developmental. This approach treats language acquisition as a process of change. It is suggested that it is possible, from existing data on child language, to arrive at general operating principles for language acquisition, or strategies for language construction, along with a characterization of the child's natural and growing organization of semantic and phonological space and basic syntactic principles. Recent research in this area has accounted for the development of morphological paradigms, canonical sentence forms, placement of operators, and various patterns of over- and underextension of meaning. Research on grammatical morphemes is providing evidence that linguistic forms and constructions have a long developmental history closely tied to discourse functions. Attention to the mutual relationship between form and function is seen as essential to understanding both child language and historical language change. (MSE)

PRCLD 27 (1988)
Panel

Confessions of a Wayward Chomskyan

Dan I. Slobin
Department of Psychology
and Institute of Cognitive Studies
University of California at Berkeley

I've been working in this field for almost 30 years, and have seen theories, approaches, and controversies come and go. But the challenges remain those set forth by Chomsky when I was a graduate student in the early 60s. In 1962, when the Ninth International Congress of Linguists met at Harvard and MIT, I heard him pose the challenge in the way that has since become as familiar as passages from the Bible or the Declaration of Independence (Chomsky, 1954, p. 50):

"The central fact to which any significant linguistic theory must address itself is this: a mature speaker can produce a new sentence of his language on the appropriate occasion, and other speakers can understand it immediately, though it is equally new to them. ... On the basis of a limited experience with the data of speech, each normal human being has developed for himself a thorough competence in his native language. This competence can be represented, to an as yet undetermined extent, as a system of rules that we can call the *grammar* of his language."

The extent is still undetermined, and so is the acquisition device. By 1965 the challenge was posed directly to our field, in a famous remark in *Aspects*: "knowledge of grammatical structure cannot arise by application of step-by-step inductive operations...of any sort that have yet been developed within linguistics, psychology, or philosophy" (Chomsky, 1965, p. 58). This, of course, is the argument from "the poverty of the stimulus"--the gap between knowledge and experience. And by 1986, in *Knowledge of Language*, Chomsky's despair with the possibilities of developmental psycholinguistics was fully elaborated (p. 12):

"It seems that there is little hope in accounting for our knowledge in terms of such ideas as analogy, induction, association, reliable procedures, good reasons, and justification in any generally useful sense, or in terms of "generalized learning mechanisms" (if such exist)."

If I may be allowed an analogy, I would characterize this position as "the argument from the poverty of the imagination": Since I can't imagine a reasonable account of language acquisition, no one can.

One must not minimize "Plato's problem" ("the problem of explaining how we can know so much given that we have such limited evidence" [Chomsky, 1986, p. xxv]), but neither should one shy away from the task of studying the unfolding relationships between knowledge and evidence over time. It has been our attempt, at Berkeley, to press our imaginations--as developmental psychologists, rather than as linguists--in pursuit of childlike means of the growth of knowledge. Here I speak for Susan Ervin-Tripp and myself and 20 years of students. Our attempt has been to start from individual children and individual languages, rather than a preconceived view of universal grammar, trying to characterize the strategies or "operating principles" that children use in building up grammars within the contexts of developing cognition and communication. In the course of designing and testing Operating Principles against acquisition data in different languages, I believe we can arrive at an empirically grounded definition of the innate competence that guides the child in the construction of grammar.

But that is not all--because our interests are broader than syntax, and because we are not in a hurry to have the child arrive at the end-state without an interesting journey along the way. This is because we take a *psychologist's* concern with *development* as an important and interesting process in its own right. At Berkeley, we do not see the study of child language as derivative from syntactic theory. We are convinced that if we attend only to the adult model, we will fail to discover psychologically valid *interim solutions* attempted by the child in the construction of grammar. Interim solutions, we believe, can reveal basic aspects of the human language-making capacity. In fact, as I tried to show in my Stanford keynote address some years ago (Slobin, 1977), one can learn things about studying language in processes of change that may not be as clearly revealed in synchronic studies.

I must admit, though, that we have other grounds for a less-than-romantic relationship with formal syntax. We have been on the scene long enough to watch popular syntactic theories come and go at an alarming rate, leaving little of cumulative significance in the field of child language. I am reminded, most poignantly, of the years of careful work of my teacher, Roger Brown, in preparing the second volume of *A First Language*--which never appeared, because, by the time he was ready, the *Aspects*-type grammars he had prepared for Adam, Eve, and Sarah were no longer of current interest or repute. In his "Autobiography in the Third Person," published this year, Brown reports the difficulties of a psycholinguist who had wedded himself to a particular phase of syntax (Brown, 1988, pp. 398-399):

"The planned second volume of *A First Language* that was to cover *The Later Stages* was never written. People used to ask about it but after several years that became embarrassing and developmental psycholinguists came to assume that it never would appear." Why has it not? Data collection had been complete in 1973 and so had data description in the form of unpublished grammars. Brown had an unhappy sabbatical year in which he worked hard on *The Later Stages* but finally had to admit defeat. The detailed analyses of presumptive Stages III, IV, and V did not yield up to Brown, then, any strong generalizations comparable to those of the early stages, and he could see no value in publishing the possibly quite idiosyncratic details available in the unpublished grammars. In addition, linguistic theory was evolving rapidly and Brown, never quick at learning new formalisms, could hardly keep up.

I also learned something from being raised, in the 50s, on the learning theories of Hull, Tolman, Guthrie, and Skinner; the following cognitive revolution; and the cyclic domination of nativism and empiricism in psychology. Again, Brown's aesthetic sensitivity has been a guide. In 1977 he commented (quoted by Pinker 1988, p. 117):

"Developmental psycholinguistics has enjoyed an enormous growth in research popularity. ... All of which, strange to say, may come to nothing. There have been greater research enthusiasms than this in psychology: Clark Hull's principles of behavior, the study of the authoritarian personality, and...dissonance theory. And in all these cases, very little advance in knowledge took place. ... A danger in great research activity which we have not yet surmounted, but which we may surmount, is that a large quantity of frequently conflicting theory and data can become cognitively ugly and so repellent as to be swiftly deserted, its issues unresolved."

To be quite frank, much of current linguistics and psycholinguistics strikes me as due for this fate. But Brown went on to say:

"But in the end, the thing I credit most for what successes the field has had and the thing I most count on is that we are somehow lucky in our subject matter: there are astonishing regularities in child speech and some are very near the surface; a little deeper, I feel sure, are real laws."

I share this hope. We *have* discovered many "astonishing regularities," crosslinguistically, in the past 20 years. Many of them appear to be "very near the surface," yet promise to yield up deeper insights.

And I think that most of these regularities have been discovered from detailed observations of individual children acquiring individual languages. The most essential research tool remains exhaustive, longitudinal case studies of strategically selected languages, supplemented by artificial probes (what we self-consciously call "experiments") of dimensions of children's knowledge and use of language. We will not suffer the fate of the great programs in psychology that Brown recalled, because our data are taken from natural phenomena, rather than artificial laboratory or pencil-and-paper tasks. We do have a growing, cumulative, crosslinguistic database that will outlive our current poor attempts at theorizing, and which should serve future theorists.

In my own work, I believe it is possible to abstract from this database to arrive at general *Operating Principles* for language acquisition--strategies for language construction--along with a characterization of the child's natural and growing organization of semantic and phonological space, and basic syntactic principles. This work is closely related to Operating Principles elaborated by Brian MacWhinney (1985) and by Ann Peters (1985), and has much in common with what Steve Pinker (1984) calls "procedures" in his book on learnability. In my 1985 book, *The crosslinguistic study of language acquisition*, I began my chapter on Operating Principles with a sort of "credo" of my position, which I will take the liberty of quoting in part (pp. 1158-1159):

"In some way or another, every modern approach to language acquisition deals with the fact that language is constructed anew by each child, making use of innate capacities of some sort, in interaction with experiences of the physical and social worlds. ... It is only by detailed examination of patterns of children's verbal interaction with others that we can form a picture of the child's activity in constructing language. By observing repetitions of such patterns across individual children and languages we can begin to form hypotheses about the underlying capacities that may be responsible for language acquisition in general. ..."

"... Rather than "pre-tune" LMC [the Language-Making Capacity] to a particular current theory of abstract syntax, I prefer to work backward from acquisition data to propose systems of knowledge and information processing that seem to be prerequisite for the sorts of data that we encounter crosslinguistically. Clearly, LMC must begin life with some initial procedures for perceiving, storing, and analyzing linguistic experience, and for making use of capacities and accumulated knowledge for producing and interpreting utterances. I believe that we do not know enough yet about LMC to be very clear about the extent to which it is specifically tuned to the acquisition of language as opposed to other cognitive systems, or the degree to which LMC is specified at birth--prior to experience with the world of people and things, and prior to interaction with other developing cognitive systems. These issues are full of controversy precisely because we know so little about LMC and comparable capacities for the acquisition of other forms of structured knowledge and behavior. The only way that we can ever gain more clarity about issues of innateness and task-specificity is to obtain considerably more detailed descriptions and theoretical accounts of the course of development of language and of other systems. In spite of the many pages of this book, and many other publications, it is evident that we have only the most preliminary understanding of LMC, and it is difficult to find comparable treatments of other aspects of development. In this chapter, therefore, I try to pull together what is suggested by current crosslinguistic comparison in regard to the nature of LMC, leaving it to future scholars to find a place for this capacity in a broader theory of the mind and its development. ..."

"The task, then, is to propose a set of procedures for the construction of language. I have used the term "Operating Principle" (OP) to denote the "procedures" or "strategies" employed by LMC (Slobin, 1971, 1973, 1982). OPs, whatever their ultimate origin, are necessary prerequisites for the perception, analysis, and use of language in ways that will lead to the mastery of any particular input language. The postulation of OPs constitutes a psycholinguistic attempt to respond to the challenge of Chomsky's claim that "knowledge of grammatical structure cannot arise by application of step-by-step inductive operations ...

of any sort that have yet been developed within linguistics, psychology, or philosophy" (1965, p. 58). The goal of this chapter is to propose a set of OPs based on the crosslinguistic evidence currently available, trying to sort out the ways in which knowledge of grammatical structure is given in advance and the ways in which it is constructed in the course of linguistic, cognitive, and social experience"

Working within such an approach, it has been possible to account for the development of morphological paradigms, canonical sentence forms, placement of operators, and various patterns of over- and underextension of meaning. In an exploratory study with Katherine Demuth and Ruth Miller it has even been possible to *predict* some acquisition patterns in a previously uninvestigated Bantu language, Sesotho. I think we've been especially successful in isolating some of the perceptual factors that make grammatical morphemes salient to children, along with the basic semantic notions expressed by such morphemes. The Operating Principles require a primordial specification of linguistic units and categories, along with a richly structured semantic space, in which concepts are arrayed in terms of proximity to one another and accessibility to the learner.

Beyond the Operating Principles, a new approach has been developing at Berkeley--one that I consider especially promising. We have always been interested in the semantic bases of the use of grammatical morphemes. However, recent dissertations by Julie Gerhardt (1983), Iskender Savasir (1984), and Nancy Budwig (1986) have shown that grammatical morphemes emerge in specific interactional contexts that must be characterized in both semantic and pragmatic terms. To give one brief example, from Nancy Budwig's 1986 dissertation: some 2-year-olds make a systematic distinction between *I* and *my* as subject pronouns. These children use *my* in utterances in which the subject is a prototypical agent, with a highly kinetic verb and a direct effect--either to report a completed volitional act, such as "My blew the candles out," or to announce such an act, as in "My take it home." Thus *my* tends to co-occur with verbs that are either past-tense and perfective, or future-intentional. When *I* is used as subject pronoun, the utterances are low in agentivity, expressing experiential states, such as "I like peas," in response to an adult question. Budwig concludes that semantic and pragmatic factors function jointly to determine such idiosyncratic pronominal uses: "The uses of *my*...appear in utterances that function as Control Acts: that is, as directives, requests, challenges, protests and disputes over control of objects and enactment of activities. ... In contrast, utterances ranking low in transitivity involving the use of *I* involve no such attempt to bring about a change." Such "semantic/pragmatic" constellations do not play a role in the end-state grammar, but they are important in understanding development, and, I believe, they play a role diachronically in accounting for patterns of grammaticization in languages.

The Berkeley studies of the 80s are informed by Susan Ervin-Tripp's wise insistence that grammatical forms be considered in their contexts of use. Currently we are examining the emergence and refinement of tense/aspect markers, relative clauses, and the syntax of temporal and causal subordination in the contexts of narrative, studied crosslinguistically and across a large age span, from 3 to 11 (Slobin, 1987). It is becoming evident that linguistic forms and constructions have a long developmental history that cannot be understood without attention to their discourse functions.

Finally, we are beginning to see how the grammatical forms of particular native languages predispose children to take one or another perspective on events in narrative, raising old questions of the influence of language on thought. I could say more--especially about the links we are discovering between child language and historical language change, and hints of universal cognitive bases of grammaticization that can be studied in ontogeny and linguistic diachrony. But this would lead me far afield in these brief remarks. In conclusion, I think that there is a healthy and growing attention to *mutual* relations between form and function in language. For my part, I will continue to train my students in the

study of many languages, in their discourse contexts--while keeping an ever-hopeful eye open to promising developments in linguistics.

References

Brown, R. (1988). Roger Brown, An autobiography in the third person. In F. S. Kessel (Ed.), *The development of language and language researchers: Essays in honor of Roger Brown* (pp. 395-404). Hillsdale, NJ: Lawrence Erlbaum Associates.

Budwig, N. (1986). *Agentivity and control in early child language*. Doctoral dissertation, University of California, Berkeley.

Chomsky, N. (1964). Current issues in linguistic theory. In J. A. Fodor & J. J. Katz (Eds.), *The structure of language: Readings in the philosophy of language* (pp. 50-118). Englewood Cliffs, NJ: Prentice-Hall.

Chomsky, N. (1965). *Aspects of the theory of syntax*. Cambridge, MA: MIT Press.

Chomsky, N. (1986). *Knowledge of language: Its nature, origin, and use*. New York: Praeger.

Gerhardt, J. B. (1983). *Tout se tient: Towards an analysis of activity-types to explicate the interrelation between modality and future reference in child discourse*. Doctoral dissertation, University of California, Berkeley.

MacWhinney, B. (1985). Hungarian language acquisition as an exemplification of a general model of grammatical development. In D. I. Slobin (Ed.), *The crosslinguistic study of language acquisition*, Vol. 2. *Theoretical issues* (pp. 1069-1156). Hillsdale, NJ: Lawrence Erlbaum Associates.

Peters, A. M. (1985). Language segmentation: Operating Principles for the perception and analysis of language. In D. I. Slobin (Ed.), *The crosslinguistic study of language acquisition*, Vol. 2. *Theoretical issues* (pp. 1029-1068). Hillsdale, NJ: Lawrence Erlbaum Associates.

Pinker, S. (1984). *Language learnability and language development*. Cambridge, MA: Harvard University Press.

Pinker, S. (1988). Learnability theory and the acquisition of a first language. In F. Kessel (Ed.), *The development of language and language researchers: Essays in honor of Roger Brown* (pp. 97-120). Hillsdale, NJ: Lawrence Erlbaum Associates.

Savasir, I. (1984). *How many futures?* Masters dissertation, University of California, Berkeley.

Slobin, D. I. (1971). Developmental psycholinguistics. In W. O. Dingwall (Ed.), *A survey of linguistic science*. College Park, MD: University of Maryland Linguistics Program.

Slobin, D. I. (1973). Cognitive prerequisites for the development of grammar. In C. A. Ferguson & D. I. Slobin (Eds.), *Studies of child language development* (pp. 175-208). New York: Holt, Rinehart & Winston.

Slobin, D. I. (1977). Language change in childhood and in history. In J. Macnamara (Ed.), *Language learning and thought* (pp. 185-214). New York: Academic Press.

Slobin, D. I. (1982). Universal and particular in the acquisition of language. In E. Wanner & L. R. Gleitman (Eds.), *Language acquisition: The state of the art* (pp. 128-170). Cambridge: Cambridge University Press.

Slobin, D. I. (1985). Crosslinguistic evidence for the Language-Making Capacity. In D. I. Slobin (Ed.), *The crosslinguistic study of language acquisition*, Vol. 2. *Theoretical issues* (pp. 1157-1256). Hillsdale, NJ: Lawrence Erlbaum Associates.

Slobin, D. I. (1987). Thinking for speaking. In J. Aske, N. Beery, L. Michaelis, H. Filip (Eds.), *Proceedings of the Thirteenth Annual Meeting of the Berkeley Linguistics Society* (pp. 435-445). Berkeley, CA: Berkeley Linguistics Society.