Normal and deficient child language. Edited by D. M. MOREHEAD and A. E. MOREHEAD. Baltimore: University Park Press, 1976. Pp. xi, 472. $14.95.

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Is the whole greater than the sum of its parts? This is a question which, of necessity, arises in reviewing any published collection. In the present volume, the answer is ambiguous: on the one hand, certain noteworthy themes and trends serve

to unify a series of empirical research reports on deviant patterns of language development; but on the other hand, a number of theoretical review chapters function rather as independent parts, each being quite self-contained with respect to a particular set of issues. The review that follows will reflect these characteristics. I shall discuss the empirical research chapters in relation to each other, the theoretical review chapters as works in themselves.

In terms of content, *Normal and deficient child language* is divided into three sections: 'Phonology', 'Syntax/Semantics', and 'Cognition/Pragmatics'. Each section contains from three to five contributed chapters introduced by one of the editors. The introductions generally summarize the chapter and place it in historical and theoretical perspective; they provide a useful guide, especially for the selective reader. About half the papers were written especially for this volume; about half are reprinted. Elizabeth Bates, Melissa Bowerman, Arthur Compton, Richard Cromer, David Ingram, Judith Johnston, James Lorentz, and Teris Schery wrote new papers. The theoretical excitement of the book lies pretty exclusively within this new group. This is not surprising, considering the rapid advances in the field of child language during recent years. One has the impression that some of the reprinted chapters would have appeared equally exciting at the time of their original publication.

An important theme which runs through a number of articles reporting empirical studies is the demonstration that it is possible to understand a child's deviant language behavior as generated by a self-consistent rulebound system on both the phonological and syntactic levels. Deviance most definitely does not mean randomness.

In his chapter, 'An analysis of some deviant phonological rules of English' (29–59), J. Lorentz analyses the deviant phonological system of a 4½ year-old child. The analysis differs from an older approach which treats deviant phonology as a series of unrelated phoneme substitutions. Instead, Lorentz specifies the deviant phonetic realizations of phonemes in particular morphophonemic and phonetic environments through a series of ordered rules; he treats different levels and parts of the phonology as elements of a single unified system.

A. Compton, 'Generative studies of children's phonological disorders' (61–96), applies the same type of systematic approach to another child. In addition, he indicates how to derive a therapeutic course of action from knowledge of the deviant rules. He describes a dynamic process whereby therapeutic procedures are revised on the basis of periodic descriptions of the nature of the system. The chapters of both Lorentz and Compton, based as they are on current formal linguistic models of phonology, leave one with the sense that there is nothing more practical than a good theory.

Two papers from the syntax section also represent successful attempts to describe the speech of deviant children as rulebound systems. J. R. Lackner (181–207) carries out this task for retarded children, while D. M. Morehead & D. Ingram (209–38) do it for 'linguistically deviant' children, operationally defined in terms of their attendance at an Institute for Childhood Aphasia. Both studies find syntax to be as highly patterned as phonology; again, deviance does not mean the absence of pattern. But whereas the phonological chapters concentrate on identifying deviant rules, a theme of the syntactic articles is that the developmental progression of syntactic systems in these special populations is not qualitatively different from that observed in 'normal' groups. The results of both studies show, however, that the special groups are distinguished by the slow pace of development. The different meaning of deviance in phonology and syntax may be more apparent than real, since the phonological studies do not include any sort of comparison with 'normal' development; thus one does not know exactly how the phonological systems which are described relate to processes of normal development.

The other chapters which report empirical research on deviant development in syntax/semantics use group statistics as their technique of data analysis. One is by J. Johnston & T. Schery (239–58), another by P. Menyuk & P. Looney (259–79). While each study is very competently carried out and reported, the technique has little to offer clinicians who must formulate methods of diagnosis and treatment on an individual basis.

Whereas the chapters discussed so far focus on speech pathology, the more theoretically-oriented review articles are mainly devoted to a discussion of normal development. This probably reflects the fact that the study of normal development has, in recent years, provided the theoretical foundation for advances in the study and treatment of pathological or deviant speech.

'Current issues in child phonology', by D. Ingram (3–27), is one of these theoretical studies. It is a most interesting and useful piece of work, particularly because it succeeds in relating phonology to general issues and currents in developmental psychology. Most original and insightful is Ingram's discussion of the interrelation between phonological development in infancy and Piaget's description of sensori-motor development in this same period.

Another notable theoretical contribution is M. Bowerman's chapter on 'Semantic factors in the acquisition of rules for word use and sentence construction' (99–179). This is the most up-to-date review now available for this key area in child language. In addition, it is unique in integrating research on the ontogenetic foundations of both lexical and grammatical development. Besides providing a comprehensive view of the current literature, Bowerman gives the reader new insights into old theoretical questions through penetrating examples from her children's development, much of it representing heretofore unpublished data.

R. Cromer's paper on the relationship between language and thought (283–333) tackles a difficult but intriguing topic in a most interesting way. He takes a broad multi-disciplinary approach to a whole range of issues spanning the period from infancy through adolescence. A strong point of the chapter is Cromer's use of his own research—on the development of temporal reference and time concepts—to illustrate certain relations between cognitive and language development. Like Bowerman, he considers Piaget's view of cognitive development in relation to semantic development; but he also discusses cognitive capacities like short-term memory which have a direct bearing on syntactic development. Finally, Cromer argues that certain linguistic developments are independent of other types of cognition. The weakness of his case is that there often appear to be plausible cognitive capacities without which the linguistic capacities in question could not develop; e.g., the late acquisition of the plural in Arabic is given as an example of an autonomous linguistic development. The delay relative to other languages is thought to stem from various syntactic complexities: e.g., for one or two items, the singular is used; for 3–10 items, the plural is used; but eleven or more items revert to the singular. Contrary to Cromer's purely syntactic analysis, it seems that there must also be a cognitive aspect involved in conceptualizing these three classes of numerical quantity. In still other examples, complex syntax would seem to depend on general cognitive capacities like memory. All in all, Cromer's examples of autonomous linguistic development are interesting but often not convincing.

'Pragmatics and sociolinguistics in child language', by E. Bates (411–63), is a fine introduction to these relatively new and extremely important approaches to psycholinguistic development. Bates provides an excellent description of the history of child-language research, especially its interaction with the recent history of linguistics. The chapter makes philosophical background for the area of pragmatic development accessible to non-philosophers, analyses key pragmatic concepts, and provides some review of the research in the area of child sociolinguistics. Like the other review chapters, this one benefits greatly from the author's own research in the field.

The remaining papers in the 'Cognition/Pragmatics' section are a heterogeneous lot. 'Observations on the operational and figurative aspects of thought in dysphasic children', by B. Inhelder (335–43), provides evidence that language disorders can be one aspect of a more

general disorder of symbolic processes. This article provides a nice introduction for English-speaking audiences to the Piagetian approach to atypical development, in which Inhelder has pioneered.

'The development and prognosis of dysphasia in children', by J. de Ajuriaguerra et al. (345–85), is influenced by Inhelder's approach. But either because of the global clinical approach, the translation from French, or the writing style itself, I found this chapter to be almost completely opaque.

'Formal operations and language: a comparison of deaf and hearing adolescents', by H. Furth & J. Youniss (387–410), is the only chapter to consider deafness. In some ways, this is unfortunate, in that the most important current of research on development in deaf children—research on sign language—has been excluded. While Furth & Youniss present many interesting data on formal operational performance in deaf children, their theoretical formulation suffers from not considering the possibility that these deaf adolescents have acquired language in a gestural medium. The fault lies partly in the age of their research, originally published just as the new wave of research on the development of Sign was getting under way. But this inadequacy has become most glaring, because of the recent discovery that deaf children whose parents do not know Sign seem to create their own sign language (S. Goldin-Meadow & H. Feldman, 'The development of language-like communication without a language model', Science 197.401–3, 1977).

In conclusion, this is a most useful volume. For workers and students in the field of language and speech disorders, it will be an invaluable text and reference. For those primarily concerned with the study of normal language development, the theoretical review chapters provide the best and most current introduction now available for several important areas.

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