# Peer Commentary on "Clinical Pragmatics: Expectations and Realizations" by Tanya Gallagher

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Dr. Gallagher's thoughtful appraisal of the "pragmatics revolution" in the field of language intervention describes the influence of the increased focus on language use in clinical assessment and treatment of language impairment. As Gallagher notes, the last 10 years of emphasis on pragmatics has altered the way that language impairment is viewed and approached. However, as she also comments, the impact of research in pragmatic aspects of language has not been as pervasive as was expected. I would like to extend these comments by adding some speculations about why this might be the case.

If the impact of research into pragmatics has failed to meet our expectations, perhaps we might consider the nature of those expectations. As Gallagher notes, one expectation was that pragmatic norms, skill profiles, and standardized tests would be readily available for use within clinical and educational settings. In essence, I believe we expected not only that there would be pragmatics tests, but also that those tests would fit the formats and functions with which we were familiar and comfortable. We hoped to identify pragmatic aspects of language that were critical to communicative competence and then to test those parameters in the same way that we tested aspects of language form and content, such as syntax and vocabulary. But pragmatic language functioning is particularly difficult to piece into a number of observable behaviors that occur in certain contexts. By definition, pragmatic aspects of language change dramatically with a myriad of obvious and subtle contextual variations. Indeed, as Gallagher notes, research in pragmatics suggests that the procedures used to devise, standardize, and administer tests may well be incompatible with the very behaviors we wish to consider. For example, it is difficult to envision assessing turn taking by creating and observing a limited number of contexts in which a child must take a turn at speaking. Devising standardized, norm-referenced measures of pragmatics may prove to be akin to examining soap bubbles—as soon as one pokes the bubble too hard, one is left with only a small puddle. I am not suggesting that we cannot test and treat pragmatic language functioning. I am suggesting that it is difficult to evaluate pragmatics using methods that are not pragmatic.

Another reason why pragmatics has not met all of our expectations relates to Gallagher's observation that pragmatic models of language lack an overarching explanatory theory. Our difficulty characterizing pragmatic functioning in normal language development spills over into our approach to disorders. In particular, we do not yet understand the relationship between pragmatic language impairment and deficits of language form and content. Differences in terminology, sampling procedures, and methods combine with subject heterogeneity to cloud our research and clinical findings. We are still seeking ways to answer basic questions such as: Is there such a thing as specific pragmatic impairment? Does pragmatic impairment simply result from impaired form and content interactions? Could pragmatic impairment cause structural impairment? What is the relationship between social and behavioral disorders and pragmatic language impairment? Research and clinical observation have raised inquiries such as these, but answers are just beginning to emerge (e.g., Johnston, 1985; Leonard, 1986; McTear, 1985).

An additional barrier to the pragmatics revolution is evident when we consider the type of research that can provide knowledge about the pragmatic language functioning of normal and disabled populations. In order to study pragmatic behaviors, it is usually necessary to gather large amounts of data. The single language sample of 50 or 100 utterances and subsequent structural counts are woefully inadequate to capture pragmatic phenomena. Extensive sampling and tedious analyses characterize sound pragmatic research (e.g., Craig & Evans, 1989; Craig & Gallagher, 1982; Tracy, 1984; Wanska & Bedrosian, 1985). Unfortunately, extensive sampling and tedious analyses also characterize the best clinical intervention for pragmatic aspects of language. This is not welcome news at a time when clinical resources are in short supply (ASHA, 1989).

It is not my intent to disparage the influence of the pragmatics revolution in the field of speech and language pathology. I continue to believe that the study of pragmatics is central to our understanding of language development and language impairment. However, I must admit that the revolution has not met at least one major expectation; it has not made clinical research and intervention easier. Rather, it has attacked our knowledge base, complicated our methods, and challenged our conclusions. However, if the revolution has not provided us with the answers we expected, perhaps it has provided us with a new set of critical questions.

Perhaps the pragmatics revolution can be compared to a political revolution. Political revolutions that result in constructive change and growth often begin as violent flurries of activity and upheaval that are followed by years of slow, carefully planned reform measures. The initial pragmatics battle is behind us. Much of the hard work and reform still lie ahead.

B.B.

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## *References*

American Speech-Language-Hearing Association, Committee on Language-Learning Disorders. (1989) Issues in determining eligibility for language intervention. *ASHA, 31*, 113-118.

Craig, H.K., & Evans, J.L. (1989). Turn exchange characteristics of SLI children's simultaneous and nonsimultaneous speech. *Journal of Speech and Hearing Disorders, 54*, 334-347.

Craig, H.K., & Gallagher, T.M. (1982). Gaze and proximity as turn regulators within three-party and two-party child conversations. *Journal of Speech and Hearing Research, 25*, 65-75.

Johnston, J.R. (1985). The discourse symptons of developmental disorders. In T.A. Van Dijk (ED.), *Handbook of discourse analysis, Vol 3: Discourse and dialogue* (pp. 79-93). Orlando, FL: Academic Press.

Leonard, L.B. (1986). Conversational replies of children with specific language impairment. *Journal of Speech and Hearing Research, 29*, 114-119.

McTear, M.F. (1985). Pragmatic disorders: A case study of conversational disability. *British Journal of Disorders of Communication, 20*, 129-142.

Tracy, K. (1984). Staying on topic: An explication of conversational relevance. *Discourse Processes, 7*, 447-464.

Wanska, S.K., & Bedrosian, J.L. (1985). Conversational structure and topic performance in mother-child interaction. *Journal of Speech and Hearing Research, 28*, 579-584.

Gallagher's retrospective discussion of the impact of pragmatic language models on clinical practice in child language disorders makes a valuable contribution to current thinking on this topic because of both the timeliness of the presentation and the importance of the specific issues addressed. Pragmatic theory has been applied seriously to the study of child language disorders for more than ten years. Gallagher observes that the enthusiasm with which speech-language pathology embraced pragmatic theory throughout the last decade may be due to: (1) the attention pragmatics received in the normal language literature and, as an applied discipline, our dependent relationship to that field; (2) widespread frustrations clinically with exclusively structural approaches to language disorders; and (3) the resonance between the social dimensions of the theory and the definitions of disability that were the foundations of our field. Consequently, many clinical implications were suggested based upon the translation of pragmatic theory to the clinical context. As Gallagher's paper demonstrates, at this time we are able to evaluate the extent to which our expectations for clinical change have been realized.

This paper provides an excellent example of the type of careful synthesis important to the process of theory formation. A theory-driven approach can be conceptualized as involving the following stages: (1) a shift away from a previous theory; (2) the articulation of a new theoretical perspective; (3)the acquisition of a new set of language facts that involves the reinterpretation of old facts and the identification and description of new ones; and, (4) interpretation and criticism of the new theory in terms of its contributions, its unanticipated results, its shortcomings, and its anomalous outcomes (Kaplan, 1963; Kuhn, 1970). Gallagher's paper demonstrates that the process of theorizing about pragmatic applications for child language disorders has progressed sufficiently so the last stage of this process involving critical review of the theory's clinical achievements is possible. "To engage in theorizing means not just to learn by experience but to take thought about what is there to be learned" (Kaplan, 1963: p. 295).

The timeliness of this retrospective analysis is due not only to the accumulation of a large enough body of information to allow an examination of this type, but also to the recent challenges that have been made to the appropriateness of applying pragmatic theory to the clinical context. Leonard and Loeb (1988) have proposed that an alternative theoretical perspective, government binding theory, has important clinical implications for language disorders. Government binding theory (Chomsky, 1981) is receiving considerable attention in linguistics. It represents an important evolution of the earlier theory of transformational grammar, and proposes a set of new principles that are intended to eliminate problems inherent within the earlier theoretical formulations. Leonard and Loeb suggest that government binding theory has the potential to explain some aspects of the nature of language disorders and, therefore, should be pursued. If this theory was applied clinically, our definitions of child language disorder would again become structural in nature, as they were prior to

the pragmatics revolution, and assessment protocols once again would give primary emphasis to semantic-syntactic characterizations of the child's communication problem. The exclusively semantic-syntactic properties of government binding theory and its applications are incompatible with pragmatic theory.

In addition to Leonard and Loeb's position, Connell (1987) has proposed that because evidence supporting the characterization of language disordered children as pragmatically impaired is so meager, it has been premature to abandon structural approaches to clinical management in favor of pragmatic ones. He argues that intervention procedures that are designed to teach language in discourse attempt to preserve naturalness and that this naturalness detracts from language teaching. According to Connell, the naturalness of discourse is distracting. He argues that modification of the type of input presented to the child, the clinician's major language intervention strategy, has been sacrificed in order to preserve natural conversational interaction. In his view, this shift in perspective has been short-sighted. Unfortunately, intervention research that compares and contrasts these more structural and direct methods with the less direct pragmatic approaches is lacking. This represents a critical omission in the literature on pragmatics, clinical management, and child language disorder.

How are we to interpret the Leonard and Loeb, and Connell proposals? Is the need for change in theories within linguistics our need? Pragmatic theory may make an important contribution to our understanding of this population. If so, research focusing upon clinical applications should be pursued aggressively. If not, an alternative theory should be explored. Are we to be constantly buffeted by changes in other disciplines, or can we determine when new normal language theories have potential for us and when they do not? Critical analysis of current theory in terms of our own clinical needs is central to the advancement of our profession.

Gallagher's paper presents a thoughtful discussion of the clinical promise of pragmatic theory and the subsequent achievements and particular shortcomings of its clinical applications. Gallagher notes that clinical assessments have changed in many important ways. Intervention has changed also, and Gallagher highlights several ways. These changes, however, have associated costs. The scope of assessment has increased geometrically. More behaviors must be sampled and analyzed, and their interdependent influences described (Prutting & Kirchner, 1983; Roth & Spekman, 1984), and across more situational contexts and types of conversational partners (Gallagher, 1983; Muma, 1975; 1986). Intervention tasks that emphasize natural experiences for the child, conversational symmetry between the child and the intervention agent, and balanced play between interactants (Craig, 1983; Fey, 1986; Muma, 1986) may appear imprecise or unfocused, and documentation procedures for intervention may depend upon subjective measures (Penn, 1988; Prutting & Kirchner, 1983; 1987; Shulman, 1986).

These new assessment and intervention approaches create tension between the client's need for relevant and expeditious clinical service and the clinician's responsibility for cost-effective delivery programs and accountability. The general movement away from examining improved sentence production as an easily quantified outcome measure toward ecologically valid descriptions of changes in communicative effectiveness has placed considerable stress on this delicate balance and strained clinician resources. Gallagher discusses how the lack of pragmatic norms and consequently the paucity of developmental tests of pragmatic skills is a major unrealized expectation for pragmatics. It will be a disappointment to many practitioners to consider the veracity of her proposal that pragmatic tests logically may be inconsistent with major tenets of pragmatic theory. Long awaited pragmatic tests may not be slow in development, they may not be forthcoming.

Gallagher concludes her paper with three questions critical to the future of pragmatic approaches to language disorders. Two pertain to the nature of the pragmatic problems experienced by this population, and the third, to the potential limits of the theory itself. I would add a clinical management question to this set: How can clinical practice preserve pragmatic principles within a variety of constrained employment settings? I would add also a metatheory question: Have we arrived at a conclusion stage in our pragmatic theorizing so that we know whether to return to more structural approaches or to intensify our inquiries into the appropriateness of pragmatic applications to language disorders?
H.K.C.

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## *References*

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

Connell, P. (1987). Teaching language form, meaning, and function to specific-language-impaired children. In S. Rosenberg (Ed.), *Advances in applied psycholinguistics, Volume I: First-language development*, (p. 40-75). New York: Cambridge University Press.

Craig, H. K. (1983). Applications of pragmatic language models for intervention. In T.M. Gallagher & C.A. Prutting (Eds.), *Pragmatic assessment and intervention issues in language* (pp. 101-127). San Diego, CA: College-Hill Press.

Fey, M. (1986). *Language intervention with young children*. San Diego, CA: College-Hill Press.

Gallagher, T. (1983). Pre-assessment: A procedure for accommodating language use variability (pp. 1-28). In T. Gallagher & C. Prutting (Eds.), *Pragmatic assessment and intervention issues in language*. San Diego, CA: College-Hill Press.

Kaplan, A. (1963). *The conduct of inquiry: Methodology for behavioral science.* New York: Harper & Row.

Kuhn, T. (1970). *The structure of scientific revolutions, second edition.* Chicago: The University of Chicago Press.

Leonard, L., & Loeb, D. (1988). Government-Binding Theory and some of its applications: A tutorial. *Journal of Speech and Hearing Research, 31,* 515-524.

Muma, J. (1975). The communication game: Dump and play. *Journal of Speech and Hearing Disorders, 40,* 296-309.

Muma, J. (1986). *Language acquisition: A functionalistic perspective.*

Penn, C. (1988). The profiling of syntax and pragmatics in aphasia. *Clinical Linguistics & Phonetics, 2,* 179-207.

Prutting C., & Kirchner, D. (1983). Applied pragmatics. In T. Gallagher & C. Prutting (Eds.), *Pragmatic assessment and intervention issues in language* (pp. 29-64). San Diego, CA: College-Hill Press.

Prutting C., & Kirchner, D. (1987). A clinical appraisal of the pragmatic aspects of language. *Journal of Speech and Hearing Disorders, 52,* 105-119.

Roth, F., & Spekman, N. (1984). Assessing the pragmatic abilities of children: Part I. Organizational framework and assessment parameters. *Journal of Speech and Hearing Disorders, 49,* 2-11.

Shulman, B. (1986). *Test of Pragmatic Skills—Revised.* Tucson, AZ: Communication Skill Builders.

Gallagher's retrospective on the application of pragmatics to clinical practice indeed is timely. As she notes, given the profound impact of the pragmatic paradigm upon clinical practice over the past decade and a half, the time has come for a critical examination of the changes effected by the "pragmatics revolution." Additionally, advancements in linguistic theory once again have brought a modular, syntactic centered model of language to the forefront. Chomsky's theory of government and binding, a contemporary version of generative grammar, has been receiving a great deal of attention (Chomsky, 1982). A tutorial on this theory recently won an editorial award in the *Journal of Speech and Hearing Research* (Leonard & Frome Loeb, 1988). Enthusiasm in the field of speech-language pathology for the resurgence of modular, syntactic models of language has caused some researchers to declare the "revenge of the 'is-verbing'" (Leonard, 1988). The possibility that pragmatic models of language are waning in influence and that syntactic models are re-emerging may be more apparent than real. However, such a possibility makes critical examination of the clinical applications of the pragmatic paradigm even more important.

In this commentary, it is my purpose to expand upon Gallagher's examination of clinical pragmatics as a respondent rather than as a reviewer. I am motivated by yet another reason for embarking upon a retrospective. In the art world, a retrospective is undertaken to highlight the work of an artist, and as a result, pay tribute to that artist for their contribution. In this spirit, I have undertaken this commentary as a tribute to my late mentor, Dr. Carol Prutting. No one in the field of speech-language pathology spoke or wrote as passionately and with such vision about pragmatics as Carol.

There are two scientific aspects of Gallagher's paper that I wish to expand upon in my commentary. First, I wish to further discuss reasons why speech-language pathologists embraced pragmatic models so enthusiastically and the consequences of this stand in light of the resurgence of modular models of language. Secondly, I will attempt to provide additional perspective on the expectations we held for pragmatic models by reviewing several alternative interpretations of these models and the potential they hold for meeting those expectations.

Gallagher cites several reasons for our acceptance of pragmatic models of language. Among them she identifies our field's growing frustration with purely structural models of language and the "intuitive recognition that there was something basically right about the field's earliest concept of a communication disorder as a socially defined disability." With regard to the first of these reasons, it is worthwhile to recall the assumptions inherent in influential structural models of language, for example, Chomsky's Standard Theory (Chomsky, 1965). Central assumptions of this theory are: (1) the idealization of language (i.e., the emphasis upon a speaker's competence of knowledge of all permissable sentences); (2) the autonomy of syntax (i.e., it's operation independent of other aspects of language); and (3) the view of syntax as an abstract system. Chomsky defined his area of study narrowly for methodological reasons. Indeed, he believed linguistics could only be a serious discipline with such a focus. Gardner (1985) in his history of cognitive science concludes that Chomsky may have adopted an ideal methodology for illuminating mechanisms of syntax, but not for how it participates in human endeavours. Bates and MacWhinney (1979) have expressed this in yet another way: Chomsky's was a theory of sentences rather than people. It comes as no surprise then that clinicians who were charged with treating people with language disorders would so readily entertain pragmatic models which "returned language to its users" (McLean & Snyder-McLean, 1988, p. 255). Theoretical models that focused upon the "relationship between language and the human being who creates it and uses it" (McLean & Snyder-McLean, 1988, p. 255) provided clinicians with an ecologically valid (to use Gallagher's phrase) framework for language assessment and intervention.

Our concern as clinicians has always been for determining and facilitating the potential of a person with a language disorder to function as productively as possible in society. It may well be that recognition of the correctness of VanRiper's concept of a "speech defect" as a socially defined disability

was not intuitive at all, as Gallagher suggests. Rather, clinicians actively engage in the practice of determining how well an individual will function in society every time they write the "clinical impressions" section of a diagnostic report or make a prognostic statement (Prutting & Kirchner, 1987). Prutting (1982) reiterated that it was one's social identity that was affected by a speech, language, or hearing disorder. She proposed that by changing linguistic behavior, clinicians were changing "a vehicle by which one initiates, maintains, and terminates relationships with others" (p. 129). In reviewing the emergence of scientific inquiry into communication disorders in the United States, Prutting (1983) suggests that the person and society were removed from the definition of communication disorder proposed by early scientists and clinicians like VanRiper, in the name of accountability. Thus, perhaps the recognition Gallagher writes of was not intuitive, but simply the swing of the pendulum back to a more humanistic position. I believe it was a position that was always held, but in light of behavioral and psychometric influences on our field, it was not always in vogue to articulate it.

But what are we to think of the resurgence of modular syntactic models of language. First, it is a healthy sign that our clinical practice continues to be infused with new ideas. However, no matter how elegant a description of grammar these new models may provide, what was true in 1976 remains true in 1990, that these models are still theories of sentences, not people, and as such their application to language disorders will always be limited. Although our applications of pragmatic models of language have not provided answers to all of our pressing questions regarding language disorders, in fifteen short years we have begun to explore the possibilities of these models. If we pose the politician's favorite election-time question, "Are you better off than you were 15 years ago?", we must answer with a qualified yes; that is, yes, but we have a long way to go!

Given that clinical pragmatics have not provided a panacea for language disorders, further discussion of the expectations for pragmatic models that have not been realized is warranted. This has been a lively topic of discussion not only by Gallagher in her paper, but also by a panel presented at the 1988 American Speech-Language-Hearing Association's annual convention in Boston. In expanding on Gallagher's comments, I will address issues raised by that panel. To clarify what pragmatic models have not accomplished, it is important to examine how these models have been interpreted by our field and what other alternative interpretations exist. Prutting and Kirchner (1987) suggested three ways in which pragmatic models have been interpreted. The first is the view that pragmatics constitutes another level or component of language, the "pragmatics-as-separate" interpretation. Bloom's and Lehey's well known Venn diagram of form, content, and use exemplifies this approach. The second view, the "pragmatics-as-perspective" interpretation, is most frequently associated with Elizabeth Bates and colleagues (Bates & MacWhinney, 1979). From this position, pragmatics serves as a perspective from which to understand all other components of language. That is, content and form are best understood by considering their functions or uses. Finally, Prutting and Kirchner (1987) suggest a third perspective, the "pragmatics-as-cause-effect" interpretation. In this perspective, the emphasis is upon the impact or communicative effects of linguistic and related cognitive deficits upon interaction, an emphasis which is not incompatible with either of the other interpretations. The notion of appropriateness is central to this perspective. Linguistic behaviors are deemed appropriate if they facilitate communicative interaction or are neutral; they are considered inappropriate if they detract from the communicative exchange and penalize the speaker. As such, the frequency of occurence of deficient linguistic behaviors is not necessarily an indicator of severity or of disorder. If the behavior does not detract from interaction or otherwise penalize the speaker, it is not considered a problem.

Johnston (1989) suggests that researchers and clinicians in our field predominantly employ the first interpretation, that is, they view pragmatics as a separate component of language which is analogous to syntax, semantics, and phonology. Norma Rees, a long time advocate of pragmatic models in speech-language pathology and a participant in the ASHA panel, suggested that in applying pragmatic models from this perspective "we assumed ...that if language has a finite array of phonemes and sentence types, it should behave itself and also have a finite list of speech acts, and our job is to discover it... Now of course that hasn't worked terribly well" (Rees, 1988). Gallagher points out that the problem with this assumption is that the fundamental differences between syntactic and pragmatic theories do not allow their respective behaviors to be treated as analogous. This erroneous assumption can account for the dissatisfaction many have felt with clinical applications of pragmatic models. Clinical application of pragmatic models has been said to have failed because only lists of speech acts or discourse behaviors have resulted. In addition, the behaviors comprising these taxonomies do not perform like syntactic units. That is, they cannot be arranged in unique hierarchical structures, nor are they constrained by parameters which delimit possible combinations (Leonard, 1988). It is not a flaw of pragmatic models that the elements they seek to organize and explain do not behave as syntactic units; it was our inappropriate assumption that they should, which accounts for our failed expectations. Thus, our application of the pragmatics-as-separate interpretation has not been totally adequate.

The future of clinical pragmatics may well lie with the second interpretation of pragmatic models. As Johnston (1989) suggests, the pragmatics-as-perspective interpretation may be a more profitable perspective for speech-language

pathologists to assume in their clinical applications. The contribution of pragmatic models to language disorders from this perspective has not been explored, but numerous possibilities come to mind. For example, in current applications of pragmatic models to intervention, clinicians have abandoned context stripped drill exercises for naturalistic treatment contexts. Critics of such approaches like Connell (1987) maintain that this naturalness detracts from teaching. However, operating from the pragmatic-as-perspective interpretation we can apply, for example, the work of Keenan (1977) and Snow (1981) in devising clinical intervention strategies. Their research has suggested legitimate discourse functions for imitation and self-repetition. Scaffolded dialogues that are highly predictable can be planned by a clinician to provide a function or reason for a child to repeat and at the same time provide opportunities for the introduction and practice of new form and content. In such a clinical application, the clinician is using the discourse function of an utterance to make the form and content salient to the language disordered child. The pragmatics-as-perspective interpretation may allow us to synthesize many of our long standing practices into ecologically valid intervention contexts.

The third perspective proposed by Prutting and Kirchner, the pragmatics-as-cause-effect interpretation, also holds promise for the future of clinical pragmatics, particularly when seen as an adjunct to either of the other alternative approaches. This interpretation also has been underrepresented in research and clinical application, although Prutting and Kirchner (1987) made an initial attempt in this direction with their pragmatic protocol. Widespread clinical application of this approach awaits additional work in the area of social validation so that the concept of a "socially penalizing" behavior can be defined in culturally sensitive ways.

Many advocates of clinical pragmatics suggest that it is a very complex process to derive clinical assessment and intervention strategies from theoretical pragmatic models. As Rees said, "We have been trying to run before we could walk or perhaps even crawl" (Rees, 1988). Clearly there are lessons to be learned from the past fifteen years that will improve and focus our attempts at clinical applications of pragmatics in the future. The complicated work ahead will most certainly challenge the creativity and problem-solving abilities of speech-language pathologists, causing some to question the value of the clinical application of pragmatics. However, the desire to facilitate our clients' fullest participation in human endeavors is fundamental to our practice, and so clinical pragmatics will always be part of that practice. Prutting (1982) addressed the issue thusly:

> Some may wonder if there is a danger in clinicians dealing with behavior tied so closely to social development. When one deals directly with communicative behavior, a subcomponent of social behavior, the responsibility the clinician has to the client is great. Our intervention goals however have always been toward shaping social growth of the individual with a communicative handicap, even in the past when we concentrated primarily on phonology, syntax, and semantics. We have always been in the business of social change and the promotion of human welfare as a consequence of altering communicative behavior. (p. 132)

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## *References*


Bates, E., & MacWhinney, B. (1979). A functionalist approach to the acquisition of grammar. In E. Ochs. & B. Schieffelin (Eds.), *Developmental pragmatics* (pp. 167-211). New York: Academic Press.

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

Chomsky, N. (1982). *Some concepts and consequences of the theory of government and binding.* Cambridge, Mass.: MIT Press.

Connell, P.J. (1987). Teaching language form, meaning and function to specific-language-impaired children. In S. Rosenberg (Ed.), *Advances in applied psycholinguistics, Volume 1: Disorders of first-language development* (pp. 40-75). New York: Cambridge University Press.

Gardner, H. (1985). *The mind's new science: A history of the cognitive revolution.* New York: Basic Books Inc.

Johnston, J. (1989). Specific language disorders in the child. In N. Lass, L. McReynolds, J. Northern, & D. Yoder (Eds.), *Handbook of speech pathology and audiology.* Philadelphia: B.C. Decker.

Keenan, E.O. (1977). Making it last: Repetition in children's discourse. In S. Ervin-Tripp & C. Mitchell-Kernan (Eds.), *Child discourse* (pp. 125-138). New York: Academic Press.

Leonard, L.B., & Frome Loeb, D. (1988). Government-binding theory and some of its applications: A tutorial. *Journal of Speech and Hearing Research, 31,* 515-524.

Leonard, L.B. (Speaker). (1988). *Pragmatics: A retrospective analysis* (Casette Recording H81118-110). Rockville, MD.: American Speech-Language and Hearing Association.

McLean, J., & Snyder-McLean, L. (1988). Application of pragmatics to severely mentally retarded children and youth. In R.L. Schiefelbusch & L.L. Lloyd (Eds.), *Language perspectives: Acquisition, retardation, and intervention* (2nd ed.) (pp. 255-288). Austin, TX: Pro-Ed.

Prutting, C. (1982). Pragmatics as social competence. *Journal of Speech and Hearing Disorders, 47,* 123-134.

Prutting, C. (1983). Scientific inquiry and communication disorders: An emerging paradigm across sic decades. In T. Gallagher, & C. Prutting (Eds.), *Pragmatic assessment and intervention issues in language* (pp. 245-266). San Diego: College-Hill Press.

Prutting, C., & Kirchner, D. (1987). A clinical appraisal of the pragmatic aspects of language. Journal of Speech and Hearing Disorders, 52, 105-119.

Rees, N. (Speaker). (1988). *Pragmatics: A retrospective analysis* (Cassette Recording H81118-110). Rockville, MD: American Speech Language and Hearing Association.

Snow, C. (1981). The uses of imitation. *Journal of Child Language, 8,* 205-212.