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ABSTRACT

An adequate description of the total reading process would have to deal with reading in at least three dimensions comprising three different sets of relationships. A model of the process might well take the form of three concentric spheres: an outer, sociolinguistic shell in which text and reader respectively could be related to a particular universe of texts and a particular society of readers; an intermediate, linguistic sphere in which the texts could be related to the functions and forms of a given human language, and the reader to his functional knowledge of that language; and an inner, psycholinguistic core where text and reader come together in the mind of a single human being. Thus the focus narrows, as the spheres become smaller and increasingly specific, from a culture, to a language, to the reader himself. Approaching second-language reading in this way means a willingness to draw on work from many fields. At the broadest level the two disciplines are sociolinguistics and ethnomethodology; at the linguistic level, structural linguistics and certain kinds of discourse analysis; and at the basic level, information theory and the study of the psycholinguistic behavior of individual second language readers. This paper is a first attempt to provide at least a framework for such a theory. Better theories of language are an absolute necessity for the teacher of second language reading. (Author/CFM)

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Toward a Theory of Second Language Reading

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In developing a theory of second-language reading, the researcher can hardly help but be struck by the poverty of current theories of language in relation to a complex language act like reading. It is true that psycholinguists like Kenneth Goodman and Frank Smith have recently provided insightful descriptions of the reading process, descriptions which could fairly be called major breakthroughs;<sup>1</sup> but there is more to reading than even these important descriptions encompass, and they are, in any case, severely limited in scope by the kind of linguistics currently in vogue. Reading is complex language behavior, with cultural and social, as well as psychological dimensions, which no current theory of linguistic description, whether item-and-arrangement or process oriented, can deal with directly. Descriptions of an abstract language "competence," no matter how formally elegant, cannot tell us much about what real readers do.

A preliminary step in the right direction must therefore be the major shift in perspective that follows from adopting, in contrast to the usual form-based approach, a functional approach to the study of language. Hints of such an approach occur in much

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recent work, but the best developed functional linguistics that I know of is the work of M. A. K. Halliday.<sup>2</sup> For Halliday, knowing a language means not just knowing its phonology, syntax, and semantics, but knowing "how to mean" in that language, that is knowing what to say, or at least what might be said, in any given context. He posits three "macrofunctions" for adults--(1) an ideational function --the exchanging of straightforward information (most adults are acutely aware of this function and probably exaggerate its importance), (2) an interpersonal function--exchanging greetings and leavetakings, expressing personal feelings, including or excluding others, and so on--and (3) a textual function relating language act to context--developing an argument, adding to a conversation, in general contributing something relevant to some given structure of ongoing discourse. In pursuing my theory I will, for convenience, assume that Halliday's list is correct, or at least correct enough to be heuristically useful, and I will return to it later in my discussion.

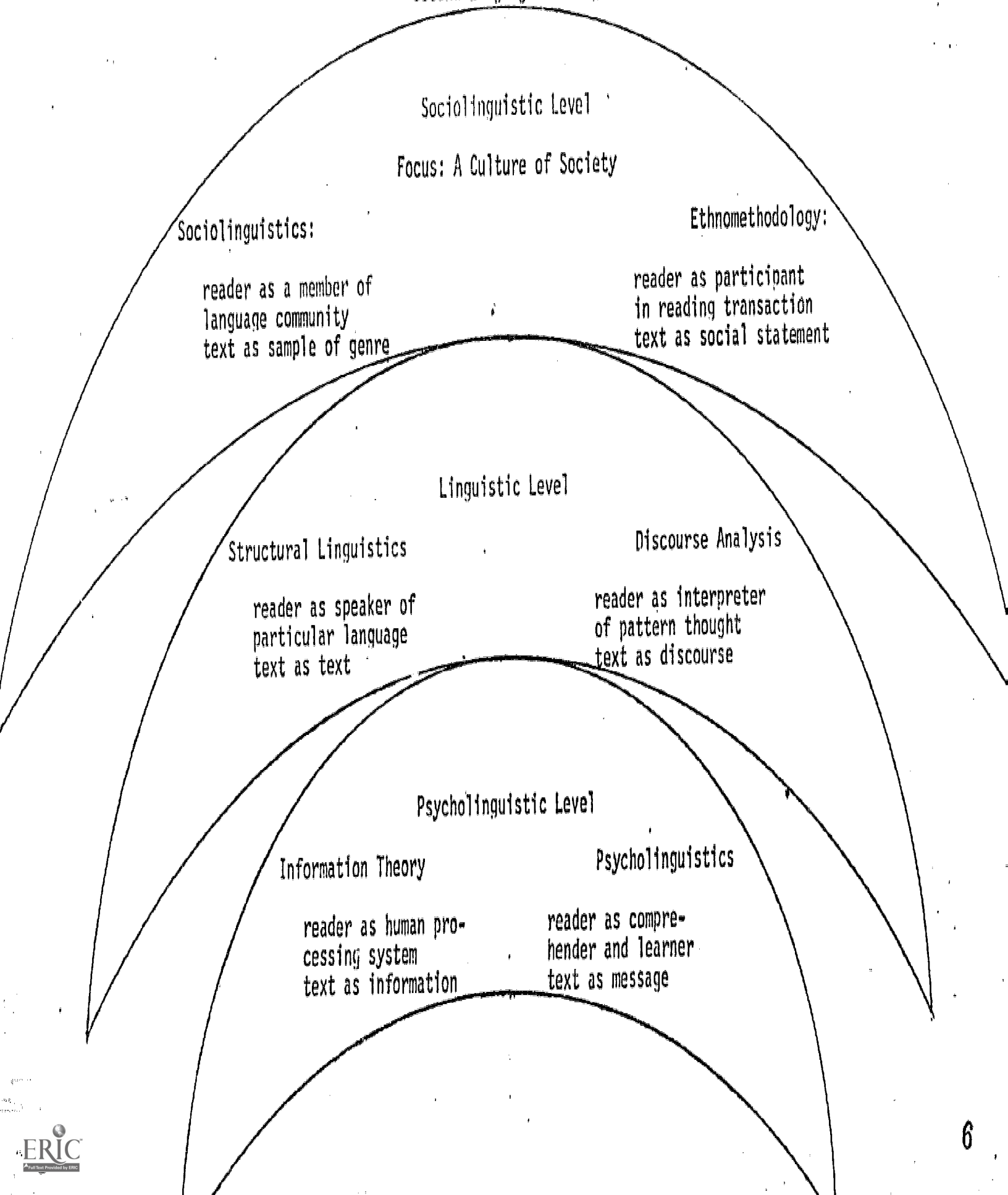
An adequate description of the total reading process would, in my opinion, have to deal with reading in at least three dimensions comprising three different sets of relationships. A model of the process might well take the form of three concentric spheres--an outer, sociolinguistic shell in which text and reader respectively could be related to a particular universe of texts and a particular society of readers; an intermediate, linguistic sphere in which the texts could be related to the functions and forms of a given human

language, and the reader to his functional knowledge of that language; and an inner, psycholinguistic core where text and reader come together in the mind of a single human being. Thus the focus narrows, as the spheres become smaller and increasingly specific, from a culture, to a language, to the reader himself.

Approaching second-language reading by way of this model entails a willingness to draw on work from many fields. At each level, two seem to predominate--one more static and concerned with categories and features, with language as a simple entity, one more dynamic and mainly concerned with various kinds of relationships, or, in practice, with language as language transactions between speaker and listener, writer and reader (see Figure 1). At the broadest, sociolinguistic level, the two disciplines are sociolinguistics itself and ethnomethodology; at the linguistic level, the two are structural linguistics and certain kinds of discourse analysis; and at the basic, psycholinguistic level, they are information theory and the study of the psycholinguistic behavior of individual second-language readers. The challenge to the theorist is to correlate insights from these many kinds of work within one coherent theory of second-language reading, and this paper may be thought of as a first attempt to provide at least a framework for such a theory.

The first, and most abstract of my three concentric spheres is, as noted, the sociolinguistic sphere where every reader is, by virtue of being one, a member of some particular society of

Figure 1: Framework for a Theory of Second-Language Reading



readers, ranging from the semi-literate, who can barely deal with street signs and Pepsi-Cola labels, to well-educated readers, including readers of highly specialized materials. What is read of course includes everything there is to read, from graffiti to Ulysses to scientific treatises. For any reader, but especially for the second-language reader, reading problems begin--and sometimes end--at this level. However limited a part of the sea of printed language available in English a given second-language reader may be expected to read, he will need some kind of cultural orientation in order, first, to approach it with the proper expectations, and then to react to it appropriately. When a student from Mexico or Jordan or Hong Kong picks up a book or a journal in English, what does he really expect to find there? What techniques will he employ in reading it? Will he skim it? plod through it? try to memorize it? How much and what kind of culture-bound information will he need to make minimal sense of the thing? Can he process its rhetoric, syntax, vocabulary? Will he relate what this text has to say to the structures of knowledge he already controls in anything like an appropriate way? Will he reject it on cultural or religious grounds? misconstrue it completely? or accept it as Gospel because he finds it in print? For the teacher of second-language reading, these are questions of fundamental importance, and no theory of reading which ignores sociocultural questions like these can fully satisfy the needs of such a teacher.

According to Fishman, sociolinguistics deals with three basic concepts--varieties of language, attitudes and behavior toward



language, and the kinds of language communities.<sup>3</sup> In the context of reading, this discipline can provide information on such subjects as the written varieties of the language, the standard dialect in its written form, special registers in writing (fundamental information for teachers of English for Special Purposes), and the distinguishing characteristics of the various special communities of readers. By a very slight bending of the common categories of sociolinguistics, some of the major concerns of reading specialists can therefore be accommodated; but in a genuine sociolinguistics of reading, there would also have to be some means of classifying the many kinds of texts that readers might have to read--the novels and poems, the textbooks and reports, the dissertations and theses, and the popular and specialized periodicals--and some means of describing the distinguishing characteristics of each. We need, to borrow a term from our literary colleagues, a theory of genres for English writing as a whole.<sup>4</sup>

At the other extreme from these macro-concerns, there must also be some means of analyzing and describing individual transactions between reader and writer through the medium of some particular text. Every reading of a text is a unique language act, and the reading teacher's interest must, in the end, focus on a given series of such acts. The discipline that makes a study of individual social transactions like these is called ethnomethodology (Fishman makes the connection with more familiar kinds of work by calling it "micro-level sociolinguistics"). Following some discussion of work in this field, Jakobovits defines it disarmingly as "the

study of the transactional practices of individuals when they are being ordinary."<sup>5</sup> This sounds simple enough until one stops to think that becoming an ordinary reader of English may call for an extraordinary effort on the part of the typical reader of Thai (or the native-speaking reader of comic books). In any case, the teacher of second-language reading can obviously profit from a better understanding of what constitutes ordinary reading behavior in that language.

Assuming that a reader does understand exactly what kind of material he is reading, how best to go about reading it, and what kind of response would be appropriate, he is still faced with the problem of processing the language of that particular text. In my second, intermediate sphere--the linguistic--the reader must be considered in relation to his knowledge of the language of the text, to what has sometimes been called his "linguistic competence." For the second-language reader especially, this is a critical relationship; and his instructor's major problem is the problem of maintaining a delicate balance between pressing the student to read faster and more efficiently and using reading as a means of increasing the student's knowledge of the language--the problem, that is, of pushing the student into better reading habits without pushing him beyond his linguistic limits.

At this level, every text is a sample of language and the discipline we turn to is descriptive linguistics, which has a great deal to tell us about linguistic structure, at least at the



level of sentences. From the reading teacher's point of view, however, the crying need is for insightful descriptions of texts, the basic structures of which continue to elude us despite a number of partially successful attempts at developing some system of analysis.<sup>6</sup>

The problem, as Henry Widdowson suggests, may be that the study of the formal characteristics of texts will never tell us very much about how texts communicate. For more useful insights into that he recommends the same shift in perspective that we adopted at the start and makes an interesting distinction between text and discourse:

. . . I want to shift the theoretical orientation from particular languages to language in general and from linguistic forms to communicative functions. As a first step toward establishing this orientation let me make a distinction between text and discourse.

When confronted with a sample of language, a chapter in a chemistry textbook, for example, there are two ways in which we might describe it. We may treat it as an exemplification of the language system and point out the incidence of certain linguistic structures and items of vocabulary: in other words, we can describe its formal properties as an instance of linguistic usage. To do this is to conduct a register analysis and to characterize the sample as text. If we treat the sample in this way, however, there are a number of things about it that we

fail to account for. In the first place it clearly does not just exist as usage, as an exemplification of the language system: it is also an instance of use; it communicates something and does so in a certain manner.

If we were to ask the author or the reader to describe the sample, the likelihood is that he would characterize it as a description or a report or a set of instructions, or an account of an experiment. These terms do not refer to the linguistic properties of the sample as text, but to the communicative function of the sample as discourse....<sup>7</sup>

Since Widdowson is thinking of scientific discourse, most of the functions he delineates--"descriptions, reports, instructions, accounts, deductions, the making of hypotheses and the calculating of results"--are most closely related to Halliday's ideational function, but his approach could easily be extended into the rhetoric of scientific writing--the way in which these language acts are organized and developed--an aspect of Halliday's textual function, and into the creation of the scientific voice--impersonal, objective, and completely explicit--a well-defined example of Halliday's interpersonal function. Such an approach would sooner or later bring us back to linguistic forms, of course, but this time to forms as a set of devices for realizing a message, devices that a writer must learn how to use and devices that a reader must learn to interpret. The implications for teaching should be obvious, and I am tempted to suggest that a functional approach

might be the way to bridge the gap between linguistics as it is and first or second language teaching. It might, in short, make applied linguistics possible.

At the center of my model stands a reader and a message a text as so many bits of information to be processed in the mind of a single human being. Given the right cultural orientation, and given an adequate knowledge of the language, the reader must at last put this knowledge to use in performing the complex language act of reading. Smith provides a good overview of the process, which, incidentally, underscores the importance of the areas of knowledge we have covered so far:

. . . reading is not a passive activity--the reader must make an active contribution if he is to acquire the available information. All information acquisition in reading, from the identification of individual letters or words to the comprehension of entire passages, can be regarded as the reduction of uncertainty. Skilled reading utilizes redundancy--of information from a variety of sources--so that, for example, knowledge of the world and of language will reduce the need for visual information from the printed page.<sup>8</sup>

Recent work at this level--the psycholinguistic--in the area of reading is much more comprehensive than anything we have seen in the sociolinguistic and linguistic spheres. As I have noted,

psycholinguists like Goodman and Smith have provided by far the most insightful descriptions of the basic reading process, drawing on a number of related fields of study. Smith turns, for example, to information theory for a means of describing the more mechanical aspects of processing linguistic information. He makes use of such concepts as transmitter and receiver, that is, writer and reader; communication channel, that is, the writing skills of the former, the text he produces, and the visual apparatus and reading skills of the latter; and channel capacity and noise, that is, "the limit on the type or amount of information that can pass through any communication channel" and "a signal that conveys no information." In discussing the problem of noise in reading channels, he also makes an observation of special relevance to the problems of second-language readers: "Because anything that one lacks the skill or knowledge to understand automatically becomes noise, reading is...intrinsically more difficult for the novice than for the experienced reader. For the beginner, everything is much noisier."<sup>9</sup> And for the reader of a second language.

Information itself is defined as "the reduction of uncertainty" and may be measured in bits, one bit representing exactly half of the number of alternatives remaining in any given text. Since this is a matter of proportions, not numbers (if I tell you that a card is either black or red, I remove just two alternatives; if I tell you that a letter is in the first half of the alphabet, I remove 13; but in both cases I reduce the amount of your uncertainty by half), what constitutes a bit for any given reader will vary

with his knowledge of the content and the language of what he is reading. For the knowledgeable reader, the major means of reducing uncertainty as he reads is making skillful use of redundancy, which decreases his dependence on purely visual information, and Smith somewhere remarks that the skillful reader is simply a reader who makes maximum use of the redundancy in a text. The degree to which a reader can accomplish this will depend on two factors: the amount of prior knowledge he brings to the task, and the strategies he actually employs in his reading. Good readers seem to steer a middle course between reading every word, and thus jamming the channel, and guessing too wildly, and thus failing to acquire the correct information from the printed page.

For a more precise means of investigating this, Smith draws on a little-known corner of his field, a study called signal detection theory which has to do with the problem of interpreting signals as quickly and correctly as possible. As he reads, any reader must be making decisions as to what the language he is processing means, and the amount of information that a reader requires before making a decision is, in terms of this theory, designated that reader's criterion. Every right decision may be considered a hit; every failure to decide without the further information required to meet the reader's criterion is a miss; and every wrong decision is a false alarm. The problem, Smith observes, "is that the numbers of hits, false alarms, and misses are not independent; [the reader] cannot change

the number of one without making a change in the number or another. . . . the choice is always the same between maximizing hits and minimizing false alarms. Always the perceiver has to make the choice, to decide where he will set his criterion . . . The higher the criterion, the more information required before making a decision, the fewer will be the false alarms but the fewer also will be the hits. There will be more hits if the criterion is set lower, if decisions are made on less information, but there will also be more false alarms." Smith's summary of the relevance of this theory to reading has a special urgency for the second-language reader:

The skilled reader cannot afford to set his criterion too high for deciding on word or meaning identification; . . . if he demands too much visual information, he will often be unable to get it fast enough to overcome memory limitations and read for sense. This readiness to take chances is a critical matter for beginning readers [and for second-language readers] who may be forced to pay too high a price for making "errors". The child [or foreign learner] who stays silent (who "misses") rather than risk a "false alarm" by guessing at a letter or word before he is absolutely sure of it, may please his teacher but develop a habit of setting his criterion too high for efficient reading.<sup>10</sup>

Reading, Goodman once observed in a much-quoted phrase, is a "psycholinguistic guessing game,"<sup>11</sup> and taking chances is an

integral part of the game. For the teacher of the insecure second-language reader, with his word-by-word and run-to-the-dictionary habits, promoting this kind of thinking, and this kind of reading, is a thankless but absolutely critical task.

Beyond the study of the reading process, the study of reading as a kind of mental act, we come at last to the question of the final goal of reading--that is, comprehension and, ultimately, learning. This involves a certain widening of perspective, a relating of reading to the total thinking process of a given human mind, within which all the kinds of knowledge we have looked at must combine in one coherent vision of the world. For Smith, "comprehension means relating new experience to the already known" and "making sense" of the world, an act which presupposes some "cognitive structure" or "a theory of the world in the head" of every reader.<sup>12</sup> If information reduces uncertainty, then "comprehension is the condition of having cognitive questions answered, the absence of uncertainty." Since no two cognitive structures are exactly alike, comprehension must remain to some extent relative, but the sameness of the human experience provides the kind of limits that make a shared comprehension possible.

The theory of the world in the head of every reader does not of course remain static. As readers learn, they make revisions in their theories of the world, and Smith's definition of the learning process--"the elaboration and modification of cognitive structure"--illustrates the reciprocal relationship between the concepts of comprehension and learning. The reader in comprehending a text

must relate what it says to what he already knows, but as he comprehends he learns, and as he learns he develops and revises what he knows. The reading teacher must in turn maintain an interest in ends as well as means: he must be careful not to teach his techniques in a vacuum. For the second-language teacher, relating reading to learning--to problem solving, to discussion, and to the writing of reports and original papers--is the part of the job that gives meaning to the rest.

What emerges from this survey of the problems of readers and of the several disciplines that shed some light on those problems is not a theory of reading but a framework for a theory. Certainly no current theory of reading encompasses anything like this range of problems, for the obvious reason that reading is a broadly comprehensive language act and current theories of language are simply not equal to describing, let alone explaining, such acts. For that I see more hope, as I have noted, in a functional approach and in a stronger commitment to the study of language behavior as a whole.

Better theories of language, if and when they arrive, will be useful to the teacher of first-language reading. For the teacher of second-language reading, however, who cannot take any aspect of the language for granted, better theories are an absolute necessity.



## NOTES

- <sup>1</sup> See especially Goodman (1967) and Smith (1971) and (1975).
- <sup>2</sup> See, for example, Halliday (1973).
- <sup>3</sup> Fishman (1970: 21-37).
- <sup>4</sup> See, for example, Northrop Frye's fourth essay in his much-discussed Anatomy of Criticism (Frye (1957: 243-337)).
- <sup>5</sup> Jakobovits and Gordon (1974: 222).
- <sup>6</sup> For a review of the literature, see Coulthard (1975).
- <sup>7</sup> Widdowson (1974: 29).
- <sup>8</sup> Smith (1971:12).
- <sup>9</sup> Smith (1971: 15-16).
- <sup>10</sup> Smith (1971: 23-26).
- <sup>11</sup> Goodman (1967: title).
- <sup>12</sup> Smith (1975: 10-11).

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