

# LINGUISTICS AND THE TEACHING OF READING

MARGUERITE F. L. HORTON

## PART I

Every generation of American education seems to produce certain watchwords that are seized upon as talismans against all the ills of the body educational. The watchwords of the moment seem to be the now-famous dicta of Jerome Bruner that scholars in the forefront of their disciplines should be influential in shaping school curricula, and that any subject can be taught in some intellectually honest way to any child at any age.

The salutary effect (on the fields of science and mathematics in particular) of intelligent and careful application of this thinking needs no documentation here. Too often, however, the words have been taken up for their ring of self-evident truth and their academic respectability, without exploration either of the readiness of the scholars in a specific discipline to lead, or of the educational system to implement their advice. The one reliable readiness in all such situations has been that of the publisher and the producer of educational gadgets to aid and abet any new instructional enthusiasm.

The wide discussion of "linguistics" in professional conferences and journals, and proliferation of courses and texts indicates that the field of English is feeling strongly the influence of the language scholar. The purpose of this paper is to explore the impact of the work of that group of scholars labeled linguists on a specific area of the English programme of public schools: the teaching of beginning reading in the native tongue.

The paper raises the following questions:

1. What is "structural linguistics"?
2. What proposals have linguists made for the teaching of reading?
3. What do the "reading experts" say about linguistic proposals?
4. What experimental evidence exists as to the values of "linguistic" methods?
5. In the light of available evidence, what attitudes to the proposals of the linguists should the educator take? In particular, what part should the study of linguistics, and of linguistic-centred teaching approaches play in the initial preparation of teachers for the elementary school?

Part One of this paper deals with the first three questions. Part Two, to be published in the next issue of this journal, deals with three and four.

### What is "Structural Linguistics"?

Since the publishing of Charles Fries' *Linguistics and Reading* in 1962, so many summaries of the historical background and

basic definitions of the field have appeared in print that a brief sketch will suffice here. Fries' broadest definition of the linguist is one engaged in scientific study "to understand the process of human language." He supports Bloomfield in identifying Whitney's texts of 1867 and 1874 as key points in establishing the inductive study of these processes as opposed to earlier historical and philosophical approaches.

Tracing these broadening techniques Fries stresses the work of Verner, Brugman, and Saussure in establishing that "there are laws of phonology which operate without exception" in their respective languages, and in laying the foundation for modern phonetics and phonemics. He identifies Sapir and Bloomfield with the introduction of structural linguistic studies, the main concern of this paper. Fries himself is recognized by his colleagues as a seminal writer in this field.

As in any new scientific field, there is division among structural linguists in emphasis and in use of terms and symbols. The minimal statement below is intended to outline those understandings most necessary in following the applications of structural linguistics made by Bloomfield, Fries, and Lefevre to the teaching of reading.

"Language is fundamentally and primarily audio-lingual, a matter of mouth and ear." Print and writing are not language, but arbitrary graphic symbols translatable into speech for those who can break the code.

Individual words and their semantic meanings are not the essential features of a language system. This is not the same as saying the linguist denies meaning. The opening sentence of Bloomfield's<sup>4</sup> original chapter on "Meaning" reads, "The study of speech sounds without regard to meaning is an abstraction." It is, however, the contrastive patterns of sound operating within a language (and distinctive to a given language) that are the critical signals of meaning. The identification of these contrastive sound elements is thus the linguist's concern.

The *phoneme* is the smallest contrastive sound unit which can make a difference in the meaning (in the layman's sense) of an utterance.

1) pin : bin                      2) pin : pan                      3) pin : pit

In the first pair of words above, the change of one sound unit /p/ to /b/ signals to the ear that these are two distinctive words of the English language. Items 2) and 3) also represent *minimal pairs*, or pairs of words distinguished by a single phoneme. Some forty *phonemes* or distinguishing sound units are identified in the English language. The structural linguist supplements the English alphabet to provide a fixed form for transcribing each phoneme. The following words illustrate phonemic script.

/kreyv/ : crave                      /feyl/ : fail

In addition to the *segmental phonemes* representing sounds of contrastive vowels, consonants, and glides, there are contrastive sound patterns created in speech by stress, juncture, and pitch.

That these *supra-segmental phonemes* are distinguishing clues to meaning is illustrated by the minimal pairs below.

súspect : suspéct                      récord : recórd

The change of primary stress from first to second syllable creates a new word.

        syntax : sin tax

Here the distinguishing signal (to the ear) between the two utterances is the break, or open juncture between the syllables of the second items of the pair. Terminal juncture at the end of an utterance is signalled in English speech by voice pitch. Note the phonemic signals (in speech) of the three kinds of juncture below.

She ran away↓ (falling juncture: statement)

She ran away ↑(rising juncture: question)

She ran away→ (level juncture: hesitation or incomplete thought “. . . and was never heard of again.”)

The written form carries only a few graphic signals (punctuation) for the many supra-segmental phonemes of speech.

The *morpheme* is a lexical unit. The *free morpheme* is the unit recognized by the man-in-the-street as a word; *bound morphemes* are units which signal meaning or meaning change when combined with a free form. Inflectional endings like *s*, *'s*, *-ing*, *-ment* signifying either derivation or a change in part of speech (*kindness*, *kindly*) illustrate bound morphemes.

Free morphemes are divided into two large groups, *content* and *structure* words. Content, or full words correspond to some referent in the actual world, and include the four classes: nouns, verbs, adjectives, and adverbs of traditional grammar. Structure or function words, a much narrower class of about three hundred items, are meaningful only in the terms of the function they perform in relation to content words: *a*, *the*, *this* act as noun markers; *who*, *which* as question markers, *and*, *but* as connectors or levellers.

In his *syntax* the structural linguist departs radically from the traditional grammarian's methods of sentence analysis through semantic meanings and relationships. The linguist finds a rigid and arbitrary word order in English, and considers this the most reliable clue to sentence structure. A small number of type or kernel sentences serve as patterns from which all more complicated sentences are evolved through expansion, subordination, inversion, or transformation.

Structural linguists again vary widely in their terminology and forms of sentence analysis, but they break the sentence essentially into its basic parts of noun phrase and verb phrase (subject-predicate) plus pattern completers. The “Jabberwocky” sentence is usually employed to illustrate the signalling power of word-order, word changes, and structure words as clues to syntax.

The vercular lobemities    may have been molently perfluced.

1

2

Without recourse to the semantics of the content words, we rec-

ognize the subject as the noun phrase *1. The* points to the noun. The plural ending *es* signals *lobemities* as the noun, and the word in the intervening position must by word order be an adjective.

### How Do Linguists Propose to Teach Reading?

Two linguistic scholars, Leonard Bloomfield and Charles Fries, and Carl Lefevre, who describes himself as a "humanist" student of linguistics, have made strong recommendations for the introduction of linguistic approaches to beginning reading. The three have some points of fundamental agreement.

Each traces the language development of the child from the unstructured vocalizations of infancy through the contacts with his social environment that teach him to respond to and produce the phonemes of his own dialect and to eliminate all others. Spontaneous practice, growing linguistic awareness, and social reinforcement bring about rapid development to the stage where he has learned "all the basic sentence patterns, their obligatory intonation patterns and word order, a good deal of functional grammar . . . and a vocabulary of more than five thousand words including many of the three hundred structure words."<sup>5</sup> The child is ready to learn to read at this stage, identified variously as "when he begins school," "at three, four or five," and "between five and seven" by the writers. Since the printed word is simply the graphic presentation of the language patterns already understood in speech, the process of learning to read is that of developing a considerable range of habitual responses to the patterns of graphic shapes<sup>6</sup> — in other words decoding alphabetic symbols into the spoken word. All three writers agree that acceptance of this definition by teachers would eliminate confusion as to objectives and method, and that if this kind of recognition response is developed effectively many of the other skills taught in developmental reading programmes will look after themselves.

Beyond this point, Bloomfield and Fries depart radically from Lefevre. The first two emphasize as the starting point the establishment of correspondence between the segmental phonemes and their alphabetic representations in words; while Lefevre insists on the sentence and its supra-segmental phonemes of stress, pitch, and juncture as the fundamental unit of speech and of reading.

*Let's Read: A Linguistic Approach*<sup>7</sup> published in 1961 under the names of Leonard Bloomfield and Clarence Barnhart outlines the linguistic method developed by Bloomfield in teaching his own child to read. If his statements<sup>8</sup> on the teaching of reading and the materials provided for pupils<sup>9</sup> show something less than the objectivity and scholarship one would expect from the distinguished author of *Language*, it must be remembered that the material was collated and published some twelve years after his death. It is, however, the core of his method that is of concern here.

Training in the recognition of the alphabet letters by their shapes and names ("There is not the slightest reason for using any other responses"<sup>10</sup>) and in left-to-right orientation precede the

introduction of one-syllable words with regular correspondence between phonemes and spelling: *can, ran, man; big, wig, pig*. The teacher has the child spell out the letters and pronounce the word. A second word is similarly presented and the child practises distinguishing between the minimal pair. Meaning is not a consideration; however, "there is no harm in telling the child that a van is a big covered truck . . . or that Nan is a girl's name."<sup>11</sup> Words are combined into phrases or sentences as soon as possible, producing material like the following:

If Bob can get a job, Bob can get  
a cat. Bob got a job. Bob got a cat.  
Did Bob get a bobcat?<sup>12</sup>

Motivation comes from the child's continuous mastery of items. Nonsense syllables are used to test and reinforce progress in discrimination, but no effort is made to encourage *conscious* recognition or substitution of initial or final consonants or medial vowels. Through massive practice and progress through materials that move from regular to semi-regular and irregular phonemes, it is assumed that phoneme-grapheme correspondence will be grasped and applied inductively and intuitively. Two hundred pages of such practice presumably create "the overpracticed and ingrained habit of uttering a phoneme for the appropriate alphabet stimulus."

In *Linguistics and Reading* Fries traces the history of American reading methodology. In spite of apparently wide reading in the field, however, he shows misunderstanding of the theory of word attack in modern reading programmes, and equates the letter-sounding procedures of Flesch with the inductive approaches to word analysis recommended by Gray, Harris and others as part of a developmental reading programme. In general accord with Bloomfield's phonemic approach in initial instruction, Fries sees the *Transfer Stage*<sup>13</sup> as the crucial first step in the reading process.

The *Transfer Stage* involves the transition from aural to graphic symbols. Letter discrimination and left-to-right progression training precede the introduction of words and phrases in minimal contrast. Unlike Bloomfield, Fries demands "full" meaning responses as part of recognition, uses only whole words within the child's experience, and introduces at once variant sounds of the same letter. He insists on distinguishing his phonemic approach from phonic methods, on the grounds that discrimination is made automatically as in speech, with no conscious attempt to develop generalizations or "sounds of letters."

Once this "transfer" to print has been made the child moves into *Productive Reading* with stress on fluent *oral* reading of continuous discourse, and finally to the stage of gaining full understanding and satisfaction from literary materials. This step is apparently a natural outcome of stages one and two, although Fries makes some suggestion that more mature studies in the linguistics of syntax and the "literary code"<sup>14</sup> will add depth to reading ability.

In counterpoint to Fries and Bloomfield, Lefevre seems to say "Take care of the sense and the sounds will take care of themselves." To him the sentence is the minimum meaning-bearing structure of language. The first step in learning to read is practice in the oral patterning of sentences already familiar in speech and with emphasis on native intonation.

Lefevre insists that reading be integrated with speaking, writing and literature, and recommends oral reading from experience charts as the initial step. Material should be controlled not by vocabulary count nor phonemic regularity, but by the criteria of native sentence patterns. "Purely graphic"<sup>15</sup> mistakes in decoding on the child's part as a result of this wide vocabulary range need not cause concern, as these will disappear with growing maturity.

This method is postulated on the parallel of speech learning. Its goal is to avoid "word-calling" and to produce reading by large and meaningful structure units and in the "rhythms and tunes" of speech. Reading is seen as an almost spontaneous outgrowth of the broader language programme, and of the growth in conscious understanding of linguistic principles, including word changes and sentence order. Like Fries, Lefevre puts much emphasis on the recognition and understanding of structure words. He attacks current practice, apparently with the impression that because structure words appear in isolation in basic vocabulary lists, they are taught as single items and out of context.

As the illustrations below indicate, linguistic trends are already apparent in school texts.

1. *Let's Read*,<sup>16</sup> the experimental series put out by Barnhart in 1964 is developed with little change from Bloomfield's approach described above. Fuller instructions to teachers and accompanying pupil workbooks of matching exercises are the chief additions.
2. The Fries *Linguistic Readers*<sup>17</sup> are also built on intensive repetition of minimal pairs. As the sample of text below indicates, the "pattern words" (Dan, van, Nat) are eked out by irregular sight words (structure words such as on, and, the) in order to build phrases and sentences.

*Dan on the Van.*

The man is on the van.

Dan is on the van.

Nat is not on the van.

By Book Four [Primer Level?] only single vowel phonemes have been introduced, placing severe limitations on vocabulary and content. Teacher instructions are precise, and interlined with the pupil text in the edition for the teacher, doubtless to compensate for her lack of linguistic background. Pictures are eliminated on the assumption that there must be no distraction from the task of decoding.

3. The Richardson, Smith, Weiss series,<sup>18</sup> labelled "linguistic"

appears highly eclectic. Their two-toned coloured pictures and unpatterned text can hardly be distinguished from the pages of standard developmental texts. The main linguistic concession seems to be vocabulary control based on regularity of grapheme-phoneme correspondence. One of the results (in both this and the Fries material) is the production of sentence patterns far-removed from the "natural rhythms and tunes of speech."

The usual workbooks accompany both series, and tend to provide test rather than practice material.

### What Do the "Reading Experts" Say About Linguistic Proposals?

Examination of reading teaching in theory and action on the North American continent from 1950 to 1966 reveals as many conflicts among the educators as among the linguists. There emerges, however, in developmental reading programmes a main stream of accepted basic premises round which conflicts whirl and eddy, sometimes disappearing without trace, sometimes contributing to the force and direction of the main stream. The voices of Gray, Gates, Harris, Bond, Smith, Strang and others who have guided teacher-education, reading research, and the development of curriculum materials express a general agreement as to the nature of the reading process and its major goals.

There is common acceptance of reading as a complex, multi-linear process in which learning continues at many levels not only through the years of formal schooling but through the lifetime of the individual. Nila Banton Smith in her history of American reading instruction<sup>19</sup> suggests that W. S. Gray makes one of the best statements on the subject.

Gray's position<sup>20</sup> is that *word-perception* or *decoding*, recognition of printed words and the meaning they carry, is merely the initial step in reading in its full sense. Along with perception must be developed *comprehension*, both literal understanding of the complete text and the ability to read between the lines. Personal *re-action* to the material read must be encouraged, including the processes variously described by other writers as critical reading, evaluative reading, emotional response to the text, and so on. *Assimilation*, including revised concepts and attitudes organized through the impact of reading, and new behaviours resulting from these, is the final step of the reading process.

Later elaborations of the Gray model stress the development of flexible *rates* of reading appropriate to different materials and purposes as part of the process of learning to read. Reading is further seen not as taught within the reading course or the English curriculum, but as a developmental process throughout every curriculum subject in which reading plays a part. It is no longer considered enough to teach the child to decode; the vast majority of pupils will need guidance through their school years in skills and sub-skills leading to the full functioning of reading.

The implications of this concept of reading for action are summarized by McCullough<sup>21</sup> in the keynote speech of the 1961 IRA Conference.

1. Single "whole-hog" methods of teaching reading are no longer tenable.
2. Essential sub-skills must be identified and ways of developing them refined.
3. The sub-skills related to specific kinds and fields of reading are best taught functionally in the context of subject disciplines.
4. Children must go through the stages of the reading programme at optimum individual pacing, and be led to optimum individual achievement.
5. True research, not waves of inspiration or enthusiasm, should be the basis of acceptance of new theories and approaches.

There is apparent dichotomy between these views of reading and the narrow definitions by some linguists of reading as decoding, and their frequently expressed opinion that attempts to achieve very broad aims in the early stages of reading have befuddled teachers and pupils alike. Perhaps, however, the problem is more one of emphasis and semantics than of fundamental disagreement.

Learning to read has no end... nor *must we stop before we go as far as possible* in teaching our children to really read literature.

The best in literature can broaden, deepen and enrich life, *provided the reader knows how to mine its rich ores*. Literature does not come knocking at dark doorways seeking the sleepers; it must be sought out, stalked, captured, mastered... It must be deeply read. (*Italics inserted*)

These are statements not from "developmental" reading enthusiasts, but quotations from the final chapters of Fries and Lefevre respectively.

What are the assessments of educators of the specific proposals for the teaching of reading outlined earlier in the paper? Cresswell<sup>22</sup> suggests that Fries and Bloomfield stress programming rather than a linguistic methodology. Their text materials would bear this out. The essence of programming, however, is individual rather than group responses to each item, and individual rate of progress through the items. Linguistic readers used in group or mass teaching situations may simply create the boredom of repetition without the predicted reinforcement and motivation of step-by-step successes.

Spache<sup>23</sup> sees the possible contributions of the linguist as the development of more consistent and scientific phonic materials, of better-structured basal readers, and of better methods in developing the use of context and meaning skills. He suggests that the linguists who have advanced programmes of reading teaching are naive in their views of the perceptual act and of the nature of skill learning. He points out that theories of the mediation role



of meaning and experience in the stimulus-response chain, and the Hebb-Holmes view of "sub-strata factors pyramiding towards a major skill" warn against the over-simplification of the teaching of reading as one generalized response.

McDavid<sup>24</sup> agrees that the role of the linguist is to advise on the structural ordering of materials. He challenges the linguist's competence to pronounce on learning theory, physio-neurological processes, and on reading readiness in its broad terms.

General educational assessment is summed up by Strickland, who has guided some of the wider research on linguistics in elementary education:

The values to elementary education inherent in these materials need to be discovered by the people who know elementary education; its applications . . . need to be interpreted, tested, and evaluated by those who can serve as "middlemen" between the scholar and the classroom teacher.<sup>25</sup>

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Part Two of this paper will summarize some research findings related to linguistic approaches to reading teaching and indicate some of the "values inherent in linguistic materials" that need further exploration and development.

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