

The Born-Yesterday World of the Reading “Experts”
A Critique on Recent Research on Reading and the Brain

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Introduction

Great satisfaction has been expressed by supporters of phonics in beginning reading instruction concerning the relatively recent explosion of research on reading and the brain.

Their satisfaction that research on reading and the brain is finally being done is hardly surprising. When I started my library research on reading instruction in 1980, almost nothing was to be found on the topic of reading and the brain, except Dr. Orton's materials in the 1920's. That is, except for Orton's, almost nothing was to be found in the literature for educators that had been published after 1912, but there was a great deal before 1912. That huge chasm (except for Orton) on such published material (1912 until relatively recently) should have provoked startled responses from many people, but it did not. It should still provoke startled responses, however. That is because most of the basic facts in that recent "brain" research, which apparently only started about 1990, are the basic facts that were known about reading and the brain long before 1912.

However, such research has been carried out over the past thirteen years or so, and it has been supported and promoted in large part by the Federal Government and the Department of Education. The presumption of pro-phonics advocates has been that it is valid and that its results have justified their positions.

Yet much of that work since 1990 is a very strange gift horse that pro-phonics supporters should pause to examine in the most careful fashion. It is surprising that they should have given such unquestioning acceptance to any programs on reading instruction which had the support of the bureaucrats in the Federal Government, since the most recent so-called "phonic" reading disaster, under the support of state and Federal Government agencies, has been "Reading Recovery". Particularly in Texas, the so-called, very heavily tax-funded, "Reading Recovery" program has done and is doing enormous harm to children although it has been advertised as "helping" them with "phonics." The "Reading Recovery" debacle is not just bad. It is a national disgrace.

Recent reports demonstrate that most of the current "brain" researchers are biased in favor of the sight-word, or "meaning" method to teach the reading of alphabetic print. However, it is downright amazing that they appear to be totally ignorant of the fact that there is any other way than the "meaning" method with its phony phonics. They appear to be totally ignorant of the existence of the true phonics "sound" way to teach beginning reading. In addition, their reports make it clear that, except for their comments on the "meaning" method, they lack the most basic information on the nature and history of reading. Yet such information is absolutely essential to an understanding of reading. How, then, could these researchers possibly have constructed and conducted worthwhile research programs over the past 13 years or so, when they were so confused about the very identity of the subject they meant to study? As a result, and not at all surprisingly, many of their conclusions from that enormous amount of research are false.

The Background on the Two Ways to Teach Alphabetic Reading, by Sound or by Meaning

Before discussing any of these brain research and related papers since about 1999, some of the background information that these researchers obviously lacked (or misinterpreted, as with Orton's comments) will be summarized, to provide the necessary framework in which to critique their faulty conclusions.

Concerning the origin of the alphabet, I. J. Gelb explained that the Egyptian sound-bearing characters, which were precursors to our consonants, and which were in use before 2,000 B. C., along with meaning-bearing characters, were not actually consonants, as is generally assumed. Gelb said they were actually an abbreviated syllable system. "B," for instance, stood for any syllable formed with b: ba, be, bi, bo, bu, ab, eb, ib, ob, ub, etc. ("Logogram and Syllabary," page 334A, Volume 14, 1963 Encyclopedia Britannica). After a thousand years or so, the Protosinaitic script developed out of these Egyptian influences. (Egyptian Hieroglyphs, particularly page 40, by W. V. Davies, University of California Press/British Museum, 1987, and Cuneiform, by C. B. F. Walker, University of California Press/British Museum, 1987.) It was this abbreviated syllable system, which was used in the ancient Canaanite/Phoenician alphabet, and it is presumed it may have developed from the Protosinaitic script.

The Phoenician alphabet, even though it was a sound-bearing abbreviated syllable system, could only be used to record meaning-bearing whole words (as in "Th cw jmpd vr th mn"), not whole syllables (as in "ba, be, bi, bo, bu"), since it lacked any vowels. The Phoenician alphabet is presumed to have reached Greece about 800 B.C. William A. Mason said in A History of the Art of Writing (The Macmillan Company, 1920, 1928, page 343):

"The early Greeks also may be credited with other substantial contributions to the alphabet. At the time when the earliest known Thera inscriptions were written there already had been evolved out of the Phoenician characters five true vowels: alpha, epsilon, iota, omicron, and upsilon...."

When the Greeks, probably between 800 and 700 B. C., invented the vowels, they completed the alphabet and made it possible for the first time truly to record the sound of speech, which means to record accurately the whole sound of its syllables, instead of just parts of meaning-bearing "words" as in "Th cw jmpd vr th mn." Each of those "words", of course, bears "meaning," just as a picture bears meaning, but those word spellings certainly do not produce the proper sound.

Now that writing was purely sound-bearing, it could be read by the left or language, serial side of the brain, instead of the right, or "picture", simultaneous side of the brain. Understanding of the print (meaning) would now arise only as a result of the recreation of the sound forms of words, as the Russian psychologist, D. B. Elkonin, described reading (quoted later).

It is rather amusing to see what this switch from the right side to the left side of the brain caused in this early writing system. When vowels first arrived in Greece, writing ceased to move from right to left, as it had done originally when the incomplete alphabet could only record parts of

meaning-bearing words, (“Th cw jmpd vr th mn,”). However, the direction of Greek writing after the addition of the vowels showed the great puzzlement caused to these ancients by the totally unsuspected, new pull from the left, serial, language side of the brain. They now had to be using the left side of the brain to deal with their sound-bearing syllables (ba, be, bi, bo, bu). Eye movements dominated by the left, language, serial side move from left to right (instead of right to left as eye movements do which are dominated by the right, “picture” side). (Sid J. Segalowitz, pages 80-81, Two Sides of the Brain, “Lateral Eye Movements” (LEM’s, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1983). Therefore, the ancient Greeks stopped writing from right to left as had been done originally when writing had been “meaning” bearing instead of “sound” bearing, but they showed great initial confusion. As William A. Mason said in his 1920 book, page 340:

“Strange as it may seem to us today many queer experiments were tried by the early Greek scribes before they finally adopted the consecutive left-to-right writing of each succeeding line. A strong predilection was manifest for continuous and uninterrupted writing. This was carried out in a variety of ways before the writing became standardized. Sometimes the writing was boustrophedon [Ed.: meaning as the ox plows] with the letters reversed in the alternate lines, sometimes the boustrophedon lines were written in inverted characters, and sometimes the writing proceeded spirally from the middle, at times rightward, again leftward.”

This confusion did not last long, and the ancient Greeks responded to the totally unsuspected pull from the left sides of their brains by switching the direction of alphabetic writing, now that it was sound-bearing and not meaning-bearing, so that it ran from the left to the right. The left to right direction has persisted ever since in alphabets derived from the early Greek alphabet.

Once the Greeks about 800 B. C. had added the vowels to the Phoenician alphabet, they had amended that incomplete system which could only be read back by meaning (“Th cw jmpd vr th mn,”) into a complete and totally new system which could be read back purely by sound (fe, fi, fo, fum). Happily, mankind now had a totally syllabic and efficient sound-based system of writing to record speech with the greatest precision. The invention of the vowels was a milestone in cultural history that far surpasses, in importance, almost any inventions except the invention of place value and the zero in arithmetic.

The history indicates that alphabetic reading was taught by the “sound” of its print from the time the incomplete alphabet was completed in Greece, about 800 B. C., by the addition of the vowels, until 1744 in France, when the “meaning” method resurfaced. Eighteenth-century France showed great interest in the subject of beginning reading, and the resurfacing “meaning” method was among the many 18th century French beginning reading programs. Yet the “meaning” method was not widely used until after 1826, when it then became the overwhelmingly dominant method in English-speaking countries of the world until about 1900. (This fact is easily corroborated from examining old reading primers but is never acknowledged in so-called reading “histories”). After a brief return of “sound” in “supplementary phonics” from about 1900 to 1930, the “meaning” method has again been the dominant method in English-speaking countries ever since 1930. Therefore, when current “brain” researchers endorse the “meaning” method, as they implicitly do, they are endorsing the status quo.

However, teaching the beginning reading of alphabetic print by “sound” or by “meaning” are not just two innocuously different first-grade methods, because “sound”-bearing print and “meaning”-bearing print are processed very differently in the brain. This is a flat statement of fact, which can be proved not only by the change in the direction of print that took place when the alphabet was completed by the addition of the vowels about 800 B. C., so that for the first time it could record sound-bearing syllables (ba, be, bi, bo, bu) instead of meaning-bearing “words” (Th cw jmpd vr th mn.). It can be proved in today’s world by the two-fold nature of the Japanese writing system and how it is known to have been handled by Japanese patients with aphasia, or language loss. From observations on such patients, Japanese “sound”-bearing syllable characters, Kana, are known to be processed in the LEFT, serial side of the brain, but Japanese “meaning”-bearing characters, Kanji, are known to be processed in the RIGHT, simultaneous (all-at-once, global) side of the brain. (“Selective Impairment of Phonetic and Non-Phonetic Transcription of Words in Japanese Aphasic Patients, Kana vs. Kanji in Visual Recognition and Writing,” by S. Sasanuma and O. Fujimura, *Cortex*, pages 1-18, 1971, cited in C. K. Leong’s article in Dina Feitelson’s *Cross-Cultural Perspectives on Reading and Reading Research*, International Reading Association, Newark, Delaware, 1978).

Therefore, it is the serial nature of alphabetic syllables that mandates that the left, or serial side, of the brain should be used in learning to read and to write those “sound” bearing alphabetic syllables (just as is true with Kana syllable characters). The sound-bearing syllables can then generate syntax, which can then generate words. However, when the visual memory of those resultant “words” are then filed in what might be called the memory bank on the left side of the brain (involving the angular gyrus), the memory of the serial syllable structure of those words is filed right along with them. The word memories are serial in nature. The reason for making that latter statement will be given later.

The right, or simultaneous side of the brain, deals with “meaning” bearing wholes, such as pictures. Therefore, any child or adult who processes alphabetically-spelled words as if they were NOT SERIAL in nature, but as meaning-bearing WHOLEs, is not demonstrating just a developmental “stage” as has been postulated by some recent researchers. Instead, the subject is demonstrating that he has been taught to read words written in “sound”-bearing alphabetic print, as if they were “meaning”-bearing Chinese characters or Japanese Kanji characters. It was only to be anticipated that these researchers should find just what they have found, that beginners who are taught sight-words do use the right side of the brain to read those sight words, at least initially. It can be concluded that anyone (who is normally right-handed) who uses his right brain to read alphabetic print, which is serial by its very nature, is either organically disabled or, far more likely, has been taught incorrectly, even if that person can eventually switch to the left brain. Yet a switch to the left brain, for those “meaning”-trained readers who do ultimately succeed in making the switch, certainly does not represent a true “cure”. As will be shown from Sally Shaywitz’s very interesting research, even after making the switch to the left brain, their word memories remain what they were when they formed them initially, memories of “wholes”, and not memories that are serial in nature.

The Russian psychologist, D. B. Elkonin, defined reading in an article he wrote, which appeared in Educational Psychology in the U.S.S.R, Edited by Brian and Joan Simon, Stanford University Press, Stanford, California, 1963. Elkonin wrote:

“Understanding which is often considered as the basic content of the process of reading arises as a result of the correct recreation of the sound forms of words. He who, independently of the level of understanding of words, can correctly recreate their sound forms is able to read.”

Elkonin spoke of “The sound forms of words... independently of the level of understanding of words...” That obviously would include, in alphabetic print, the sound forms of syllables, which can be either whole words or parts of whole words.

Syllable sounds, whether they are also words (cat) or only parts of words (catalog), are, of course, serial in nature since they are expressed in a time frame - from beginning to end - and not in a simultaneous frame - with one end and the other - and the middle - all perceived instantly, as is the case with Chinese characters. Therefore, the very nature of syllables determines where they normally should be “read” by the brain, on its serial (left) side, and not on its simultaneous (right) side. The fact that this is so is confirmed by the known facts on how Japanese script is handled in the brain.

To read connected alphabetic print, therefore, (not just isolated letters) should mean to read the sound-bearing syllables used in the language, and only afterwards to perceive the words that those syllables form (except for the relatively few high frequency, irregularly spelled words). We should read written language automatically (below the level of conscious attention), by syllables, which then should automatically produce syntax and words, just as happens with listening to spoken language, before the language reaches our conscious attention. (Syntax certainly is automatic, and sorts out for us, for instance, whether an upcoming word is likely to be a noun or a verb. It is of interest that a section of Wernicke’s area in the brain has been observed to deal with syntax in brain studies with living subjects, according to comments in the text, Inside the Brain, by Calvin and Ojemann, which text is mentioned again later.)

Even the most casual review of historical materials demonstrates that reading was taught uniformly, in every kind of alphabet descended from the early Greek alphabet, by the “sound” of print for about 2,500 years. The use of “sound” (the syllabary) to teach beginning reading began to be used after 800 B. C., when the Greeks added the vowels to the Phoenician alphabet which until then only had consonants, until 1744 in France, when the “meaning” method surfaced again. It was in 1744 that the Quadrille sight-word program appeared in France, the invention of Abbe Bertaud, (cited in the Dictionnaire de Pedagogie et d’Instruction Primaire, Librairie Hachette et Cie, Paris, 1887) and the sight-word “meaning” method has been essentially the same as he outlined it ever since.

Yet the sight-word “meaning” method was not very complicated in 1744 and is not complicated now, despite all the huge tomes that accompany sight-word basal readers. First children are taught sight-words by their “meaning,” and then are taught how to compare old sight-words to one another in order to work out new sight words. The sight-word “meaning” method was used

in various programs in France in the 18th century, including in the Abbe de l'Epee's work with deaf-mutes from 1760. Samuel Blumenfeld, in his 1973 book, The New Illiterates, reported that Thomas Gallaudet, who used de l'Epee's method in the first school for deaf-mutes in America founded in 1817, also used it in an 1835 text for hearing children, The Mother's Primer. As Blumenfeld pointed out, since Gray's 1930 and later "Dick and Jane" readers sounded very much like The Mother's Primer, the Scott, Foresman "Dick and Jane" readers were teaching children by the "meaning" of print and not its "sound," as if the hearing children were deaf-mutes.

After being used in several other programs for hearing children in France in the 1700's after Bertaud's in 1744, the sight-word method was used in 1810 in France by Daubanton in his Reading by Echo program. "Echo" can indeed be a fine name for the whole-word-based phonics of the sight word method, in which new words are "attacked" by the echoes of pieces from old words, and the "echoes" are then put together to form new words. Of course, a deaf-mute can also perform that same "echo" operation with meaning-bearing sight words, because the word-comparison process is really only a visual one, dealing only with visual memories of whole sight-words and sight-word parts, with no dependence at all on sound.

Therefore, the history shows that the "sound" method was in unchallenged use until 1744, for more than 90% of the time that the completed alphabet has existed, or about 2,500 years, since about 800 B. C., and is still used wherever beginning reading is taught by "sound." Yet the sight-word "meaning" method for use in an alphabet with vowels has been in use for only 259 years, since 1744, during which time it has encountered almost unremitting and strident opposition from many people and has produced enormous failures.

For instance, A. Demkes wrote an article on Abbe Bertaud and his 1744 Quadrille method, in the Dictionnaire de Pedagogie et d'Instruction Primaire, Librairie Hachette et Cie, Paris, 1887, Volume 1, Part I. Demkes finished his short account with these words:

"This method had a great vogue in the last century. The King of Prussia, who had been struck by the results, had the prince royal, Frederick William, taught to read by this procedure. Like all reading methods without spelling, it succeeds only with those pupils who have, as has been said, the memory of the eyes."

That was a nice way to announce that the sight-word "echo" method did NOT succeed with those who lack strong visual memories, which, as we know from our experience with the sight-word method, are about fifty per cent of the population. However, "experts" do not know this history or much else of what is really involved in teaching the reading of alphabetic print.

So-called "functional illiteracy" was unknown until the advent of the sight-word method. Of course, "functional illiteracy" is really true "illiteracy". It simply has had attached to it the visual memory of perhaps the 1,000 commonest words (out of the half million or so in English). Those 1,000 commonest words cover more than 90% of any average text. Therefore, functional illiterates can "read" by those sight-word memories and a "skill" they have been massively drilled on in so-called "reading instruction," which is how to guess unknown words from their

initial consonants and the context. When that crippled sight-word plus initial-consonant-guessing exercise ceases to function satisfactorily, which is at about the high school or college level, it is then labeled “functional illiteracy”. Yet it is true “illiteracy,” the inability to deal with letters.

An Etruscan artifact was found in Italy, dated to 600 B. C., some 200 years after the Greeks invented the vowels about 800 B. C., and it carries a syllabary for the teaching of reading inscribed on it. That establishes that the Etruscans used the syllable method, which they must have received from the Greeks when they received the alphabet itself. H. I. Marrou reported the discovery of this Etruscan syllabary in his book, A History of Education in Antiquity, (first published in France in 1948, in America in an English translation in 1956 by Sheed and Ward, and again in 1964 by Mentor Books). Marrou reported a further astonishing fact. The most precise information on Greek methods for the teaching of beginning reading as early as 300 B. C. exists because a papyrus teacher’s guide for the teaching of reading was found in the sands of North Africa shortly before World War II. It was still intact as a result of the hot, dry climate. The papyrus document was described by O. Gueraud and P. Jouguet in their report, “Un Livre d’Ecolier de IIIe Siecle avant Jesus Christ,” p. 1-20, 27-30, 38-47, 58-114, in Publications de la Societe Royale Egyptienne de Papyrologie, Textes et Documents, II.

Gueraud-Jouguet reported that the 3rd century B. C. Greek papyrus was a long syllabary, a book (“livre”) of a student (“ecolier”). However, Marrou concluded that such elaborate material had to be a teacher’s guide, and not a pupil’s book.

A quotation from Dionysius of Halicarnassus demonstrates that the ancients learned to read with the greatest of ease from syllabaries like that appearing on that 300 B. C. papyrus. That ancient Greek, writing about 20 B. C., was quoted by Mitford Mathews on pages 6 and 7 of Teaching to Read, Historically Considered, The University of Chicago Press, Chicago, 1966. Mathews took the quotation from the book by W. Rhys Roberts, Dionysius of Halicarnassus, London, 1910, page 269:

“When we are taught to read, first we learn off the names of the letters, then their forms and their values, then in due course syllables and their modifications, and finally words and their properties, viz. lengthenings and shortenings, accents, and the like. After acquiring the knowledge of these things, we begin to write and read, syllable by syllable and slowly at first. And when the lapse of a considerable time has implanted the forms of words firmly in our minds, then we deal with them without the least difficulty, and whenever any book is placed in our hands we go through it without stumbling and with incredible facility and speed.”

Yet at that time no separation existed in texts between the written syllables, which were generating syntax, and then generating words, as they were read aloud. It was not until about 800 A. D. that words began to be separated in texts.

The famous ancient Roman educator, Quintilian, also recognized the need for heavy emphasis on the sounds of the syllables in teaching beginning reading, and saw the existence of different types of readers from faulty teaching. He said in his Institutio Oratoria written around 50 A. D.:

“For learning syllables there is no short way; they must all be learned throughout, nor are the most difficult of them, as is the general practice, to be postponed, that children may be at a loss, forsooth, in writing words. Moreover, we must not even trust to the first learning by heart; it will be better to have syllables repeated, and to impress them long upon the memory; and in reading, too, not to hurry on, in order to make it continuous or quick, until the clear and certain connection of the letters become familiar, without at least any necessity to stop for recollection. Let the pupil then begin to form words from syllables, and to join phrases together from words. It is incredible how much retardation is caused to reading by haste; for hence arise hesitation, interruption, and repetition, as children attempt more than they can manage, and then, after making mistakes, they become distrustful even of what they know. Let reading, therefore, be at first sure, then continuous, and for a long time slow, until by exercise a correct quickness is gained.”

After the fall of Rome in 410 A. D., apparently everyone who learned to read from the Early Middle Ages to the Late Middle Ages (more than 1,000 years!) went through that “meaningless” syllabary beginning stage in the reading of Latin. First they were taught on folding wax tablets where lessons were written, erased, and rewritten, and then they read the Psalms in Latin, written on the wax pages by the instructor. After about 1300 A. D., beginning reading was taught by the ABC book in manuscript form with its Latin prayers (and after printing arrived about the mid-1400’s, the ABC appeared in printed form all over Europe). In Britain, the hornbook, which was essentially the first page of the ABC book, appears to have been used for rank beginners from about the mid-1400’s until the early 1800’s, before the beginners moved into the ABC book, or, after about 1600, into an English spelling book. The hornbook was a single sheet of paper mounted on a little wooden paddle and covered with transparent horn. For those to be educated further, beyond the beginning reading stage, the Latin Donat grammar was used, from the time of St. Jerome in the fourth century, all through the Middle Ages.

The meaningless syllabary and the use of a foreign language, Latin, were the beginning stages in reading for Thomas Aquinas and Dante and Chaucer and Galileo and Christopher Columbus and Leonardo da Vinci, and all of Western Europe before the Reformation. The rest of Western Europe outside the areas affected by the Reformation continued to use the syllabary and to learn to read in Latin until about the 18th century.

In Andrew W. Tuer’s History of the Horn Book (1897, 1979, Arno Press, Inc., New York) he wrote on page 389:

“In a very old work, Higden’s (died 1364) Polychronicum, Lanfranc shrewdly suspects from a man’s first utterance that he is almost ignorant, and places before him a copy of the “ecedarium (alphabet) to be explained.”

It should be noted Archbishop of Canterbury Lanfranc (1005-1089) did not say “recite,” as in reciting the alphabet, but “explain,” presumably about how to use the letters in forming syllables. Tuer gave the exact quotation from Higden.

“Tunc Lanfrancus ex prima hominis collocutione perpendens quod prope nihil sciret, abecedarium litterarum illi apposuit expediendum.”

Archbishop Lanfranc lived in the eleventh century, and Higden in the thirteenth and fourteenth. However, that Lanfranc presented an alphabet to be “explained” in the eleventh century suggests that the whole syllable tables were not written out for beginners at that time, but that the learner had to be taught how to construct them. Explaining how to construct those syllables from the written alphabet must have been what Lanfranc meant by “explaining” the alphabet.

The carry-over from that practice of constructing the syllable tables showed up later on the horn book, where only the first few sample syllables were written out, up to “fa, fe, fi, fo, fu...” The child then had to use his fescue (pointer) to construct the rest of the syllables by himself from the alphabet written at the top of the hornbook sheet, which had the five vowels written again under that alphabet, obviously for use in constructing the syllables. It must have been very difficult when children as young as three years of age were given the hornbook, which was the case after the switch to teaching reading in English, because some apparently spent such a long time at the last list of “given” syllables that their endless reciting of them still echoes today in the fairy tale chant, “Fe, fi, fo, fum, I smell the blood of an Englishman.”

What Lanfranc apparently expected to hear from the man as an “explanation” of the alphabet, if the man were truly literate, would be something like this:

“The vowels are a, e, i, o, and u, and the rest of the letters are the consonants. The first consonant, b, is taken and put after each vowel in turn and makes these closed syllable [short vowel] sounds: ab, eb, ib, ob, ub. The first consonant, b, is then put before each vowel in turn and makes these open syllable [long vowel] sounds: ba, be, bi, bo, bu. The same thing is done with all the consonants. To divide a text into these syllables, if one consonant comes after a vowel, it goes with the next syllable. If more than one consonant comes after a vowel, the first consonant stays with the first syllable.”

That is about all there was to teaching children to read in Latin in those days, except for the fact that some consonant blends, instead of single consonants, can be used before and after the vowels (such as bla, ble, bli, blo, blu... ant, ent, int, ont, unt, etc.) Even after explaining about the existence of consonant blends, the above comments make a very short “teacher’s guide”. Learning the “fine points” of words that were irregular (which means they did not produce the sound they actually spelled) would come later as the children read the Psalms out loud.

Pere I. D. B. in Paris in 1654, who wrote The Parish School, (quoted in the article, “Lecture,” in the 1887 Dictionnaire de Pedagogie et d’Instruction Primaire, Ferdinand Buisson, Editor, Librairie Hachette et Cie, Paris) said, in part, concerning the teaching of beginning readers:

“Not to undertake to make them fly in reading before they know how to spell the letters because, wishing to advance them teaching them so many things at one time, one makes their reading so confused that further they are a long time learning; (and) they never know to read well, neither in Latin or in French.

“To proceed, therefore, by order, it is necessary (1) to teach the little children to know the letters (2) to assemble them to make syllables, (3) to spell the syllables to make some words, and afterwards to read....”

The “Lecture” article in the 1887 Dictionnaire de Pedagogie et d’Instruction Primaire also quoted Father Charles Demia, who ran schools and a normal school in Lyons, France, in 1672. The children in his school first learned the regularly formed syllabary and then learned to read their prayers in Latin, before they learned to read in French. After having learned to read, for instance, “In nomine patris” (In the name of the Father,) the first words of their Latin prayers, the children in Demia’s class then read them again, each child reading one syllable: the first would read “in,” the second “no,” the third “mi,” the fourth “ne,” the fifth “Pa,” and the sixth “tris.” Children practiced their letters and beginning syllables with dice, as John Locke later suggested and as was suggested earlier in England in 1653 in a book by Sir Hugh Plat. Pere Demia said concerning such dice:

“where should be printed the letters or the syllables, with which the children will play, being given a pupil more capable to settle their differences....”

This, of course, was also an early use of the monitorial school idea, the founding of which is wrongly attributed to Bell and Lancaster about the beginning of the 19th century.

Children in Western Europe were taught to read in the Latin language (a foreign language for most of them) from the time of Ancient Rome until the Reformation in the 1500’s. After the Reformation, beginning reading in Protestant countries shifted from using the memorized syllables from the syllabary to pronounce Latin words, to using the memorized syllables to pronounce the vernaculars. In most of those countries, however, the spelling patterns of vernacular words matched the sound patterns of syllables very closely so that the shift to the vernacular caused relatively little trouble.

Something that did cause great trouble in the teaching of beginning reading in the vernaculars (and still does today) was the practice, apparently dating only from about the time of the Reformation, of attempting to teach little three-year-olds to read. Very many three-year-olds cannot yet distinguish simple geometric shapes, as shown by Dr. Elizabeth Koppitz’s published norms in 1963 for the Bender-Gestalt test of visual-motor integration, so they obviously cannot distinguish letter shapes. Not until children are about seven years old can most pass the Bender-Gestalt test.

The first such recorded mention of trouble in learning to read in English appeared just after the switch from Latin to English in teaching beginning reading, when beginning readers were faced with the unpredictable and multiple English syllable spellings instead of the predictable and simple Latin syllable spellings. (There was no such thing as “correct” word spelling in English at that time, just variant but accepted English syllable spellings. Highly literate men, like St. Thomas More, sometimes spelled common words multiple ways in the same document.) That first mention of difficulties came, not surprisingly, from a primary grades teacher, John Hart, who wrote a manuscript in 1551 on the teaching of beginning reading, The Opening of the Unreasonable Writing of Our English Tounge.

Not long after, “spelling books” of English word spellings began to appear, even before the advent of English dictionaries. The first enormously successful spelling book was by Coote, and it was first printed in 1597, The First Book of the English Schoole-maister and The Second Book of the English Schoole-maister, with a catechism, all three bound together as one volume. It was published in a vast number of editions for over a century. It contained rules, systematic spellings, and short paragraphs for reading practice. After Coote’s spelling book was published in 1597, a flood of other English spelling books appeared. (They are all listed in Volume IV, Spelling Books, from R. C. Alston’s incredible eleven-volume A Bibliography of the English Language from the Invention of Printing to the Year 1800. Alston was with the British Library and the series began in 1965.) Spelling books to teach beginning reading emphasized syllable “sound,” not word “meaning.” (It is no accident that most other European languages did not need to use “spelling books” to teach beginning reading, but only the syllabary, because their spellings were more regular.)

It was precisely the English spelling book’s emphasis on meaningless syllable and word “sound” that aroused opposition by 1826. By that date, a semi-organized movement was under way on both sides of the Atlantic opposing the use of “sound”-bearing spelling books for beginners reading English, and promoting instead the use of “meaning”-bearing sight-word so-called “primers”. (They were not true English primers, which had always been prayer books). It was after 1826 that the English spelling book was largely dropped for beginners on both sides of the Atlantic. They were instead given sight-word “primers” which taught by “meaning,” at which time the “sound” method spelling book was pushed to the upper grades. The promotion of the “meaning” method sight-word primers by activists on both sides of the Atlantic was absolutely massive.

Nevertheless, some very few “sound” programs did appear from time to time after 1826, such as the Pitman expanded alphabet in the late 1840’s, Leigh pronouncing print in the 1860’s, Rebecca Pollard’s “synthetic phonics” in the 1880’s, and the 1879 McGuffey “sound” revision of the 1836 and later McGuffey sight-word originals (massively used only in the Midwest, but largely unused elsewhere). Then, supplementary phonics (“sound”) was the norm from about 1900 until 1930, when the sight-word “meaning” method returned in force with the “Dick and Jane” Scott, Foresman, and the Macmillan readers.

However, shortly after the “Dick and Jane” and Macmillan readers appeared in 1930, one of the most effective (but little used) of the phonics programs was published, Mae Carden’s. Her material was in sharp contrast to the 1930 “meaning” methods of Gates and Gray (and Gates’ Macmillan readers were admittedly modeled on the teaching of sight-words to deaf-mutes, as will be shown). Carden had dropped out of her doctoral program at Columbia Teachers College where Gates worked because she was so appalled at the “meaning” reading method being promoted there, and she wrote her truly phonic “sound” materials to oppose it.

Carden’s program was described in an article. “These Children Love to Read,” by Frances V. Rummel, The Saturday Evening Post, September 9, 1961, beginning on page 24. Ms. Rummel wrote in 1961:

Incredibly, in this confused era when some children fail to master reading at all, Carden schools normally have no nonreaders. This staggers orthodox educators whose classroom tactics have created mass reading casualties among American children. When Dr. Malcolm Robertson, then superintendent of the Morris Township, New Jersey, schools, told a clinic of such educators that his school's pupils attained 100 per cent readership during ten years under the Carden system, they openly hooted in disbelief. Yet, as Doctor Robertson told me, "the records are open to anybody."

Ms. Rummel quoted the Pequannock, New Jersey, Superintendent of Schools, Dr. Stephen Gerace, who had said:

"One remarkable thing has been that we just don't have disciplinary problems any more. I assume this is because children no longer feel frustrated. Even the slow child can learn. Children with I.Q.s as low as seventy-five are able to read capably."

Pequannock had used the Carden method for 12 years and most children were two to three years ahead of the national norm, which was reported to be the norm wherever Carden materials were used. Ms. Rummel explained that the Carden method used real phonics, teaching the sounds of the letters. She added:

"Having mastered the sounds of letters and letter combinations, beginners under the Carden system hold the key for unlocking new words that they meet. As they read by turning letters into sounds, and spell by converting sounds into letters, they become as sure-footed as mountain goats on two pinnacles of learning - reading and spelling. The big catch in applying the Carden method... is that children should begin with it. Introduced too late, it can become as labored and mechanical as trying a new way to breathe....."

She was absolutely right with that last remark. My first graders learned to use real phonics with the greatest of ease. My second and third graders, who had learned to read with sight-word basal readers, learned to use real phonics far more slowly, and, I am convinced, never could use it automatically.

Ms. Rummel contrasted the Carden approach to the approach for sight words, where words are taught by repetition. She wrote of the sight-word method:

"Even the most loyal educationists quip about the primary teacher who wrapped her car around a telephone pole and cried, "Oh! Oh! Oh! Look! Look! Look! Damn! Damn! Damn!..."

Ms. Rummel wrote concerning the claim that sight-word programs also teach phonics:

"Only after children have acquired a basic sight vocabulary do their teachers introduce phonics. Then they introduce them lightly and string them out for five or six years. Thus the teachers of look-say confidently assure you that they, too, teach phonics..."

Unfortunately, Ms. Rummel did not make it clear that sight-word “phonics” is not real phonics, but only the juggling of jig-saw-puzzle pieces that have been pried off from remembered whole sight words.

What is Reading, from the ‘Meaning’ Standpoint?

It is extremely useful to consider Edward L. Thorndike’s definition of “reading” which appeared in print in 1934. It is certainly in sharp contrast to, and the exact opposite of, the definition given above by the Russian psychologist, Elkonin. Yet the American psychologist, Thorndike, of Columbia Teachers College, Columbia University, New York City, is acknowledged to have been enormously influential on American education for well over 40 years, until the 1950’s.

Thorndike wrote an article, “Improving the Ability to Read,” which appeared in the Teachers College Record, Columbia Teachers College, in October, 1934. It made very clear the general intent of the “intrinsic phonics” sight-word “meaning” method used by his protégés, Arthur Irving Gates and William Scott Gray, in their famous Macmillan and Scott, Foresman reading series which first appeared in 1930. Yet, in his 1934 article, Thorndike made no reference to the term, “intrinsic phonics,” to Gates’ and Gray’s beginning reading texts, or to Gates and Gray.

Gates had invented the term, “intrinsic” phonics, which first appeared in Gates’ 1925 Elementary School Journal, University of Chicago, article, “The Supplementary Device Versus the Intrinsic Method of Teaching Reading.” Intrinsic phonics (context-guessing while using jig-saw-puzzle whole-word phonics) was being promoted as the substitute for the supplementary, but real, phonics that had been used successfully in America since about 1900. Intrinsic phonics did succeed in wiping out the use of successful supplementary phonics after 1930, and the phonics charts came off the window shades in primary grade classrooms all over America. The intrinsic phonics method (obviously the deaf-mute, sight-word-guessing, “meaning” method) was used by Gates and Gray in their 1930 readers, Gray’s being the massively used “Dick and Jane” series that dominated American instruction for over thirty years and which resulted in massive functional illiteracy all over America..

Yet, in his 1934 article, Thorndike first stated flatly that he would make no comments about the teaching of reading below the fourth grade level, actually opening the article with the sentence, “This discussion is not concerned with the teaching of reading in Grades 1 to 3.” This was, to say the least, exceedingly strange, particularly since the 1930 reading series written by his two ex-students, Gates and Gray, were blanketing the entire United States by 1934.

Thorndike then said that children entering fourth grade should:

“...see words as totals composed of such and such sequences of letters, so as to identify them and distinguish cart from cast, came from come, its from sit, hard from hark, bleed from bled, curtain from certain, and the like, with certainty and reasonable speed.”

Thorndike said beginning fourth-graders should:

“...know two thousand or more printed words in the sense that they are able to say the words when they see them and to understand their meaning and to understand the meaning of any printed sentences restricted to these words which they could understand when heard. They can, when they see a word, outside these two thousand or more, infer its approximate sound well enough to enable them to say it with few exceptions, if it is a word which they

already know as a heard word. The exceptions are of course words whose spelling [gives] very little help or is actually misleading concerning their [composition] or sounds (ache, acre, aid, anchor, and so forth). This ability to infer the meaning of words not seen before is the product not only of phonic habits but also of all sorts of experiences, habits and analogies dealing with words, sounds, and meanings.”

The “phonic habits” he was talking about were nothing more nor less than Gates’ “intrinsic phonics,” which should not really be called phonics, since it is the process that is used by badly taught deaf-mutes, who obviously cannot read any sound at all. “Intrinsic phonics” is the visual comparison of parts of known words to the parts of an unknown word, so as to tell the words apart and to memorize the form of the new word, while the context of the selection is used simultaneously to guess the meaning of the unknown word. When a deaf-mute child guesses the “meaning” of an unknown word, it remains soundless, because he knows no spoken words. However, when a hearing child guesses a word’s “meaning,” he can then speak it, because he already knows it as a spoken word. Yet it is only AFTER he guesses the meaning that he can attach sound to the print.

Note Thorndike’s illuminating reference in 1934 to words as “totals.” At the associative level, it is the right side of the brain which handles “totals” or “wholes”. They are spatial (and completely soundless). It is the left side of the brain, at the associative level, which handles language. Language (a series of syllables) is sequential, and, of course, sound-bearing. Long before 1934, psychologists certainly had that information about the associative levels for the right and left brain, that one side, the left, sequential side, handled sound, but the other side, the right, spatial side, was mute. Thorndike’s use of the term, “total,” powerfully suggests that he understood that the sight- word “totals” of which he spoke had to be filed at the associative level on the right side of the brain, where they would initially be as devoid of sound for hearing children as for deaf-mutes.

To outline the reason why Thorndike would want to do such a bizarre thing, to teach hearing children like badly-taught deaf-mutes, is a long story, reaching far back to the influence of his Harvard professor in 1895, America’s first experimental psychologist, William James, with whom the under-graduate Thorndike was so close that he was permitted to keep his experimental chickens in the basement of the James’ family home. It all had to do with illusions about “reading comprehension,” that arose from James’ and Thorndike’s faulty understanding of the nature of human intelligence (as well as the faulty understanding of their close psychologist friend, James McKeen Cattell). The record indicates that they thought it would short-circuit so-called “reading comprehension” if printed words were initially filed in the brain’s memory banks as sound-bearing instead of as meaning-bearing. Since deaf-mutes have to file all of their sight-words as meaning-bearing because they cannot use sound, the deaf-mute method was apparently the psychologists’ “solution” for the protection of so-called “reading comprehension.” The historical background is covered in The Hidden Story, my 1998 book, but is too complex to discuss here.

Thorndike outlined “skills” for fourth graders who had “intrinsic phonics” which would have been barely passing at the first-grade level for properly taught synthetic phonics classes. The great majority of children in good phonic first-grade programs have learned to read 2,000 words by June, and have the decoding abilities to read almost anything in print. Yet Thorndike said children going into fourth grade, three years further in school, should have only a 2,000 word

reading vocabulary! In addition, he must have meant a sight-word vocabulary composed of the very highest frequency words, as developed by his research on the 10,000 commonest words in English. He did not publish The Teacher's Word Book listing those words until 1921, but he had started his personal massive counting of word frequencies, originally only in children's texts, about 1911. Thorndike obviously must have been powerfully motivated to carry out such an exquisitely boring task for some ten long years. His motivation certainly must have been to provide a sufficiently large sight-word "bed" by fourth grade (2,000 of the highest frequency words) on which context-guessing would be possible to use jig-saw-puzzle sight-word phony phonics for the rest of a child's life, avoiding true phonic "sound" permanently.

Those 2,000 words should account for at least about 95% of almost any page in print, since Leonard Porter Ayres showed in his 1915 A Measuring Scale for Ability in Spelling that 1,000 of the highest frequency words account for more than 90% of almost any page in print.

It is bizarre, indeed, to hear Sally Shaywitz, the well-known researcher, seem to fall right in line with Thorndike's apparent reasoning, that "words" have to be learned, one by one, with their "meanings" firmly attached. She made this absolutely astonishing statement in her April, 2003 article in Educational Leadership:

"We have to develop fluency word by word. It's not a stage. ... Children crawl, then they walk. But for reading words, it's word by word. It is really important to help the child build these exact neural models of each word and word family. Fluency is the goal."

Since most phonically-trained first-graders by the end of first grade can pick up books they have never seen before, full of words they have never seen before, and read them fluently, her statement is simply false.

It is exceedingly sad that some current researchers, who are studying reading and the brain, turn out to be simply E. L. Thorndike, revisited. The harm Thorndike did through his 1913 and 1917 protégés, William Scott Gray (who wrote the 1930-1960's "Dick and Jane" deaf-mute-method readers that blanketed America) and Arthur I. Gates (who wrote the 1930 Macmillan equivalent), and their successors, has left about half of our nation functionally illiterate, and most of the other half reading below their native potential. America simply cannot afford to have Thorndike's errors promoted widely once again through enormously publicized, Government funded, failed attempts at brain research, such as the research which will be discussed later.

Not only are hearing children hurt by the deaf-mute approach, but so are deaf children. Alexander Graham Bell and his father worked with the deaf in the 1860's and later. The elocutionist, Alexander Melville Bell had devised a way to teach the deaf to speak, and ONLY THEN were they were taught to read - by phonics! The results were excellent.

Many of today's pro- "meaning" arguments can be found, conveniently packaged, in Arthur I. Gates' 1930 text for teachers, Interest and Ability in Reading. Since deaf children obviously cannot hear, and, as will be shown, since Gates' texts for children were adapted from texts for deaf-mute children, it is hardly surprising that Gates wrote on page 19:

“The first clue to the recognition of a word should be its meaning....”

With that remark, Gates made it crystal-clear that his beginning reading “method” was a true “meaning” method that was supposed to protect so-called “silent reading comprehension”. It was the same beginning reading “meaning” that was used to teach deaf-mutes. Gates continued:

“Closely associated with the recognition of the distinguishing features of word forms is the recognition of similar and unlike elements in words, such as the initial consonant in boy, bay, bee.... Teachers of beginning reading classes are aware of the frequent confusion that children experience in the recognition of words which begin with the same letter. It is essential that children early learn to recognize the similar and the unlike elements in such words....”

The deaf-mute connection, to which Samuel L. Blumenfeld first drew attention in his 1973 book, The New Illiterates, was never admitted openly by Gates and Gray, but was admitted obliquely by Gates in his 1930 book, Interest and Ability in Reading, telling of sight-word materials for deaf-mute children which were adapted for mentally slow children, the work carried out at Columbia Teachers College. The same kind of materials were then used in Gates’ 1930 series.

In a footnote on page 17, Gates showed that the source for the work with the deaf-mutes was “Helen Thompson. An Experimental Study of the Beginning Reading of Deaf-Mutes. Teachers College Contributions to Education, No. 254, 1927.”

Gates wrote the following:

“These materials were originally arranged for the instruction of deaf-mute children entering school between the ages of 5 and 7. The first edition is described in a monograph by Dr. Helen Thompson. The revised form, used in most of the groups to be described shortly, and consisting of 1040 pages of materials, is available for inspection in the Teachers College Library. The material contains short narrative selections interspersed with pages of various types of directions, announcements, descriptions, and other informative materials. The course, in other words, includes both recreational and informative content. Without repeating sentences or ideas, each word is used in different contexts until, on the average, it has been reviewed at least 150 times. The first studies were made to determine whether these materials would be suitable for dull children otherwise normal.”

The material was tested first on children with low IQ’s. Then, on page 23, Gates wrote of later work:

“For pupils of these ages, between 80 and 120 IQ, the vocabulary burden of the experimental materials was clearly too light. Although the pupils enjoyed the work, it retarded unwisely the acquisition of vocabulary, the development of important skills, such as working out the meaning of words from context, and limited the range of reading content.”

On page 37, Gates wrote concerning his 1930-1931 series as it was finally published:

“Since the new words were introduced in the work and play or informative selections and then used again in stories and poems, the material was not artificially diluted. The plan consists really in providing the desired use of the words by reviewing them in new materials. This class had no other preparatory work, - no supplementary phonetics or other forms of word study and no review of words except that contained in the reading material.”

These latter “60” materials for hearing children with normal intelligence were apparently the deliberate outgrowth of the deaf-mute materials that had been adapted for hearing children with subnormal intelligence, except that the word repetitions for the children of normal intelligence were fewer. To judge from Gates’ remarks, his series was a deliberate adaptation of materials originally written for deaf-mute children from 5 to 7 years of age.

William Scott Gray wrote the Scott, Foresman “Dick and Jane” series, a far more famous beginning reading series than the one written by Gates, his fellow ex-graduate student of the famous psychologist, E. L. Thorndike. (Gray had been Thorndike’s assistant in 1913-1914, and Gates had studied under Thorndike and was still working with him at Columbia Teachers College in 1930).

On page 43 of W. S. Gray’s Teacher’s Guidebook to the 1930 Scott, Foresman series, arranged on the same deaf-mute-method plan as Gates’ 1930 material, Gray wrote:

“Toward the end of the primer period the children should have learned to substitute one consonant for another at the beginning or ending of a word in order to make a new word. For example, changing man to pan, or pan to pat... At the end of the primer period pupils should attack new words by comparing them with words they know, picking out likenesses and differences, particularly in the beginnings and endings of words.”

Of course, deaf-mute children could do the same thing - silently.

What Gates and Gray described was the pure deaf-mute approach on meaning-bearing words, and it should be clearly labeled “deaf-mute visual phonics,” or phony phonics. It has nothing at all to do with sound or real phonics. The influence of such “expert” writing has been so complete that most primary grade teachers today would find nothing wrong with Gates’ proposals.

Anyone who knows the thousand highest-frequency words as “sight words” can score at 90%, or above the frustration level, when reading simple material, even if incapable of reading any other words. Yet that obviously does not work on difficult material, resulting in the use of that “Unthink” term, “functional illiteracy” instead of the true term, “illiteracy.”

The reason for the deaf-mute readers was the protection of so-called “silent reading comprehension,” and, of course, that necessitated so-called “silent reading comprehension tests” Those tests were silent, of course - just as for deaf-mutes! The tests arrived very early. However, no one ever comments on the fact that they were totally unknown before 1913, when Professor Henry Suzzallo of Columbia Teachers College made the following remarks in his 1913 Cyclopedia article on reading:

“The most active battleground in the reform of school teaching is found in the primary grades, particularly in the first school year where beginners are taught to read.... A discussion of the problem of teaching beginners to read is, therefore, crucial.”

By 1911, Professor E. L. Thorndike of Columbia Teachers College had already begun work on the uncontrolled vocabulary problem which had made true phonics (“sound”) necessary above first grade. When Thorndike completed his almost ten-years-long study to identify the 10,000 commonest words in English in 1921, it was possible for the first time to write the first true deaf-mute “meaning” readers to grade four with strictly controlled vocabulary for hearing children. Such readers used only about two thousand of the highest frequency words, plus a scattering of words above that level. Additional words above the 2,000 level could be introduced beginning at about grade four to the extent that the words were “important” (i.e., generally among the 10,000 commonest).

The first such deaf-mute-method readers were Gray’s and Gates in 1930. Despite various frills that have been attached to other series since 1930, almost all of them are indistinguishable from those 1930 readers, because, as Blumenfeld pointed out, they all teach reading to hearing children as if the children were deaf-mutes, by sight-word “meaning”.

The surprising finding of my 1977-1978 oral reading research (based on testing the oral reading of some 900 second graders in America, Luxembourg, Holland, Sweden, Germany, Austria and France in their own languages, using a test adapted from one by IEA) was that the different ways to teach beginning reading do not just result in “good” or “bad” readers. They result in different and opposite KINDS of readers, by “meaning” or by “sound” (or mixtures of the kinds). Yet I discovered later that my finding was not original, because the fact that there are two different and opposite kinds of readers had already been announced in 1903 by Oskar Messmer in Germany, based on his research, naming the types “subjective” and “objective,” and were described again in 1911 by Mrytle Sholty, based on her research. That background appears in my book, The Hidden Story, 1998.

It must be acknowledged, not only that there are two kinds of readers, those who read by “meaning” and those who read by “sound” (or mixtures of the kinds), but that the two kinds result from changes that take place in the brain when beginning reading is taught, by “meaning” or by “sound”. Yet these enormously important, unrecognized facts are being drowned in a flood of confusing noise that very publicized people are producing on their brain “research.” Since these researchers are apparently testing only the disabled, “meaning” trained “subjective” readers that our schools are turning out en masse, (and completely ignoring “sound” trained “objective” readers - and the very existence of such readers), they are producing no data that can be used to amend the terrible way children are still being taught to read, by Thorndike’s sight-word “meaning” instead of by ancient, syllable “sound.”

Wise Words from the Neurologist, Dr. Samuel Torrey Orton,
in 1929 and 1945

Two further items should be added to the background information on the current research, and the comments that are currently being published on that research. Those background items are most useful papers written by the highly respected neurologist, Dr. Samuel Torrey Orton, in 1929 and 1945.

When Orton referred in his 1929 paper to glowing reports of achievement with sight word teaching, which he felt unqualified to discuss, he was undoubtedly referring to the explosive arrival of the “silent reading comprehension tests”. When given to children with healthy automatic conditioned reflexes in reading, “silent reading comprehension tests” sometimes produce low scores, because bored children may pay little attention to the tests that they are reading automatically, but with wandering attention. However, children who have been taught by context- guessing and sight-words cannot read at all without paying conscious attention. In Orton’s day, as now, “average” class scores of sight-word taught guessers were probably higher than the average class scores of healthy readers whose attention might freely wander and who therefore score over a wide range, from very poor to excellent.

I believe that Orton strongly suspected that there was something very rotten in the Denmark of the silent reading comprehension tests and their class average scores, but Orton was not in a position to oppose them. Instead, he concentrated on the area in which he had undoubted expertise, the area of severe reading disabilities, in which he had been working for some years. His 1929 paper is partially quoted below.

The “Sight Reading” Method of Teaching Reading, As a Source of Reading Disability,
By Samuel T. Orton, February, 1929, The Journal of Educational Psychology

“I feel some trepidation in offering criticism in a field somewhat outside of that of my own endeavor but a very considerable part of my attention for the past four years has been given to the study of reading disability from the standpoint of cerebral physiology.... I wish to emphasize at the beginning that the strictures which I have to offer here do not apply to the use of the sight method of teaching reading as a whole but only to its effect on a restricted group of children for whom, as I think we can show, this technique is not only not adapted but often proves an actual obstacle to reading progress.... The sight reading method (or “look and say” of the English) has been credited with giving much faster progress in the acquisition of reading facility than its precursors and this statement I will not challenge if the measure of accomplishment be the average progress of a group or class. Average progress... makes no allowance for the study of effect in individuals....”

Orton went on to describe three levels that the brain uses in processing the sight of print. The first two use both sides of the brain, and neither side is dominant. The first is the perceptual level (seeing the print) and the second is the recognition level (recognizing that it is print). Both of these processes are carried on simultaneously, on each side of the brain. The third level also involves both sides of the brain, the “associative” level, but Orton said it was very different in nature from the first two levels. Orton wrote:

“When we come to the third plane of elaboration, the situation is strikingly different; this is the level at which the written or printed symbol is linked with its meaning and hence it is variously described as the associative, concept, or symbolic level. Here not only is damage to one hemisphere sufficient to destroy function but it makes a difference which hemisphere is affected. If the hemisphere which is known as the dominant happens to suffer, a complete loss of this function results and the patient becomes word blind. If, on the other hand, the damage occurs in the other hemisphere - the non-dominant - nothing apparently happens. Obviously, the visual records implanted in both halves of the brain are not requisite for reading. This situation also exists in the field of understanding of the spoken word, and of speech and of writing. In all four of these functions destruction on the dominant hemisphere in the so-called language zone is meaningful while destruction in exactly similar parts of the opposite hemisphere is meaningless.”

“Thus we learn to understand, to read, to speak, and to write words from sensory records or engrams of one hemisphere only. ... To account then for the difference in effect of damage in the two sides we must assume that the engrams of one side become the controlling pattern through establishment of a physiological habit of use of that set and that the other set of recorded engrams is latent or elided. Variations in the completeness of this physiological selection, i.e., failure of elision of the non-dominant engrams, forms the kernel of my conception of the reading disability.... If then these opposite engrams are not elided through establishment of consistent selection from one hemisphere we would expect them to evince themselves by errors or confusion in direction and orientation and this is exactly what we find in cases of delayed reading.”

“Visual presentation will, hypothetically at least, result in the implantation of paired engrams and certain other factors must determine which of these is selected for associative linkage... Undoubtedly training influences may be brought to bear on this process of choice however, and from the theoretical standpoint the most promising of these should be that of kinesthetic training by tracing or writing while reading and sounding and by following the letters with the finger (a method under taboo today) to insure consistent direction of reading during phonetic synthesis of the word or syllable.”

“...In brief, while “sight reading” may give greater progress when measured by the average of a group, it may also prove a serious obstacle to educable children who happen to deviate from the average in the case of establishment of a clear-cut unilateral brain habit.”

In her two-volume work, The Complete Handbook of Children’s Reading Disorders, (Human Sciences Press, Inc., New York, 1982) Dr. Hilde L. Mosse, the pediatrician and psychoanalyst, wrote (pages 63, 467):

“Cerebral dominance for speech is assumed to have been established in most children by the age of 10. This probably also applies to dominance for reading.....”

When Dr. Mosse said that speech dominance (and “probably” reading dominance) had become “established” by the age of 10, she certainly did not imply that speech and reading had first been processed by the opposite side of the brain and that a switch had then been made. What she obviously meant is only that their locations had become rather immovable by the age of 10. Dr. Mosse certainly did not imply that speech had initially been located in the right hemisphere and then had switched to the left. Nor had she implied the same thing about reading. Yet reading researchers are now assuming precisely that, because their research is showing that just such a switch can now take place with reading! This is in direct contradiction to Orton’s testimony in 1929, which was based on some 70 years of medical records on cases of aphasia. Orton had written:

“If the hemisphere which is known as the dominant happens to suffer, a complete loss of this function results and the patient becomes word blind. If, on the other hand, the damage occurs in the other hemisphere - the non-dominant - nothing apparently happens.”

Dr. Samuel Orton considered dyslexia to be an abnormal condition, and not a stage of development. Dyslexia resulted when images on the left side of the brain were not dominant, and when duplicate images from the right side were not suppressed. In no sense did Orton postulate that there was a natural progression - from the right to the left, and that difficulties arose because the progression had not been completed soon enough. Yet now Orton’s theory about the use of the right brain in reading, which described a diseased state (except for those left-handed people with reversed dominance) is being totally rewritten to match the unhappy results being turned up by current brain research. Most sight-word-trained children apparently DO begin to read with the right side of the brain. The lucky ones eventually make the switch to the left (but I posit carrying the whole-word disability with them, unable to see words except as wholes), but the unlucky ones do not switch to the left, and remain severely disabled.

On June 18, 1945, Dr. Orton gave an unpublished address, “Some Studies in the Reading Disability,” at the Medical Convocation of the University of Pennsylvania. His complete address was included in Reading, Writing and Speech Problems in Children, and Selected Papers of Samuel Torrey Orton, 1989: PRO-ED, Austin, Texas, which book had a foreword by Richard L. Masland.

Portions of that 1945 paper are quoted below, with permission from The International Dyslexia Association. These further remarks by Dr. Orton, in addition to those already quoted, are of further help in understanding how reading should be handled by the brain. Concerning the structure of the human brain, Dr. Orton said:

“...there is no major change in [brain] architecture to differentiate man’s most important organ, his brain, from that of his nearest animal competitors, the great apes. The differences to be found here are, first, an enormous overall increase in size of the brain and, second, a relative increase in size of certain areas which are represented in the chimpanzee’s brain, for example, by only a relatively small space, but which in man’s brain are so expanded as to cover the larger part of the lateral surface of that organ.”

“The great overall enlargement of the brain would of course increase tremendously its functional capacities merely by the provision of so many more brain cells and so many more interconnecting fibre systems, but the differential growth of the lateral areas also suggests the possibility that new functions might arise there. These areas are described by the anatomists as the great association zones, and there is added interest to be gained when we observe that damage or destruction in specific parts of these zones has been related to losses in functions which are exclusively human - communication by speech and by graphic means and great manual dexterity.”

“The animals have developed means of communicating their emotional status to others of their kind and to their enemies by means of vocal processes and bodily postures - thus the snarl and bared teeth of an angry dog or the bay of a trailing hound are distinctly indicative of their reactions of the moment - but it is man alone who has learned to use a fixed sequence of sounds as a symbol or substitute for an object or an action, to use graven or written symbols to replace the spoken words as in the phonetic languages or to indicate an idea as in the Chinese written language, and finally, to develop manual dexterity to the high degree that is represented in the finger movements of the trained typist or the pianist, for example.”

Strictly speaking, Orton’s comments on spoken language and symbolism are not completely accurate. At a simple level, “a fixed sequence of sounds” is used by many animals, such as whales and dolphins, to communicate, and our pets certainly do learn to understand many spoken phrases that we use with them. Furthermore, apes have been taught to “read” symbols to an astonishing degree. Of course, all of these animal achievements operate at a level far below the complexity of most human language, so Orton’s comments are correct for the most part. Orton continued:

“These three major functions - spoken language, graphic language, and superior skills - are naturally grouped together as the three outstanding abilities which are distinctively human and they are further associated by the fact that the newly expanded cortices of the association zones of the brain play an important part in their integrity. One other fact and a curious one links them, and that is that they are all under the exclusive control of one hemisphere of the brain. Thus in these functions not only must injury or disease of the brain affect a given area, but it must lie in the dominant or master half of the brain while an exactly similar injury or disease in the opposite hemisphere will give no symptoms of language disorders or of apraxia, the loss of skilled movements.”

“This peculiarity of the brain’s action is spoken of as unilateral cerebral dominance. No comparable superiority of one half of the brain is found in the animals nor does it affect the older parts of man’s brain. Both hemispheres are operative together in seeing and in hearing and each operates independently in touch, and there is no evidence of any greater importance of either side. As yet no adequate explanation of this new principle of operation has been forthcoming although there is room for interesting conjecture. The controlling or master hemisphere of the brain is usually, although not always, on the side opposite to the master hand - thus, in a right-handed person the left brain hemisphere is commonly the important one.”

“One small area of one of the association zones is known to be very important in reading and a relatively small amount of damage, providing it affects the master half of the brain, will result in complete loss of the ability to recognize a word at sight in a patient, although before the injury, he had been a competent reader. There is no interference with vision as the patient still sees the word but has no idea of its meaning; visual interpretation of objects of the environment and even of pictures, maps, diagrams, etc., may also be intact, and, not infrequently, the individual letters can be named correctly although when in sequence in a word there is no recognition of it as a whole.

“Occasionally, the spelling out of the letters in a word will identify it. It is an illuminating experience to see an educated man completely baffled by the word *cat* until he spells out the three letters *c - a - t* and then exclaims, “Oh, that spells *cat!*” This is the condition known as alexia and for emphasis let us repeat that had the patient’s injury involved the half of his brain other than it did he would have experienced no trouble with his reading. Cases of alexia cannot write spontaneously although many of them can copy from print into their own characteristic script, indicating that there has been no interference with the mechanics of writing but only with the recall of the letters of a word in their correct order.....”

“Together these varied observations led to a reconsideration of the possible functions of the inert or nondominant hemisphere. Its capacity for retraining has frequently been the subject of discussion and conjecture in connection with recovery from the symptoms of aphasics who have lost the function of speech through injury or disease in one hemisphere, but apparently very little attention has been paid to what it may be doing in the normally functioning brain. Obviously since the large areas corresponding to the language zones of the dominant hemispheres do not give comparable symptoms when damaged or destroyed, they must be functionally inactive and it is safe to assume therefore that such activity as may be present there is suppressed or deleted since it plays no part in the functions of the corresponding areas of the controlling half. However, such suppression of this activity must be purely a functional phenomenon since structurally the two sides are equivalent and alike except that they are right and left counterparts of each other. As yet no distinct anatomical superiority of the dominant over the nondominant hemisphere has been demonstrated by autopsy studies and while there may be such differences in the finer structure and almost innumerable interconnections present in the cortex, yet we must acknowledge that the nondominant hemisphere is adequately equipped as far as structure goes to function as a control mechanism were it not for the established habit of action whereby the master hemisphere takes full command. However, its inactivity as a controlling mechanism does not exclude a considerable measure of activity of its own below the control threshold. Thus its connections with the sensory receiving stations are intact and abundant and it seems evident that sensory data such as those furnished to the dominant side are constantly irradiating the nondominant side as well and I believe that we may assume that they are being recorded there although this [is] not readily demonstrable since such records are not used for responses. There will be one major difference, however, and that is that they will all be of opposite sign, that is, right- left counterparts of each other. This will be obvious from the structural relations of the two hemispheres as well as with their connections with the muscles and sensory systems of the body.”

“From these and other considerations the theory was offered that the special reading disability which serves as a serious handicap to academic advancement in many children may be explained as a failure in complete elision of memory records of the nondominant hemisphere and as a persistence therefore of two more or less equipotential records, thus explaining both the nature of the early symptoms and the failure of prompt recognition of words at sight; in other words, a physiological failure to establish the normal pattern of unilateral cerebral dominance in control of graphic language, reading, spelling and writing.”

Dr. Orton’s concern was with disabled children, the true dyslexics, who may use both sides of their brains simultaneously in attempting to read. Yet Orton never seemed to realize that disabilities can also arise when only one side of the brain is used in reading alphabetic print, if that side is the wrong, silent side. He never seemed to realize that perfectly normal children can be conditioned to use only that wrong, non- language, silent, “meaning” side of the brain when they are taught to read alphabetic writing by the sight-word, meaning” method. Those badly taught children using the wrong side of the brain in reading certainly do not suffer from Orton’s “dominance” problem where both sides are used simultaneously.

A May 24, 2003, paper to be discussed later is “Scripted Brains: Learning to read evokes hemispheric trade-off,” by Dr. Guinevere Eden and others. It claims that reading begins on the right side of the brain, and then a “hemispheric trade-off” takes place, moving reading to the left side. These researchers certainly are not following in Orton’s footsteps, though the claim has been made that they are. Orton made no such “trade-off” proposal, which is the assumption that, in learning to read, first one side of the brain is used and then the other. Instead, Orton’s thesis actually contradicts their thesis. Orton stated that in dyslexia BOTH sides are used SIMULTANEOUSLY, and it is in their SIMULTANEOUS use that the dyslexic problem exists.

The use of the right side of the brain instead of the correct left side is now being labeled by the Eden group as simply a “stage” in acquiring literacy, and, to make matters even worse, it is being wrongly implied that the existence of such a “stage” was Orton’s thesis, which it most emphatically was not!

Comments on Certain Papers by Current Researchers

In the light of the background that has been given, comments will be made on papers which are widely available on brain research and reading, the titles to be given later. An excellent paper (1999?) is by the psychologist, Dr. Jack M. Fletcher (and others). However, the remaining papers are faulty and disturbing, and actively harmful. One is by the psychologist, G. Reid Lyon from the Department of Education, two concern research done by the pediatrician, Dr. Guinevere Eden (and others), one is by the pediatrician, Dr. Sally Shaywitz of Yale (and others), and two papers are by Shaywitz alone.

These articles deal largely with brain scans taken while subjects are reading. Research on what is going on inside the brain during reading is supposed to be shedding great light on the much debated question, "How should beginning reading be taught?" Unfortunately, the results have been misinterpreted and the effect has been the sowing of massive confusion. Yet those misinterpretations wrongly carry the imprimatur that they have been certified as "scientifically" orthodox.

By Dr. Jack M. Fletcher and Others:
Neuroimaging, Language and Reading: The Interface of Brain and Environment,
(A downloaded copy) by Jack M. Fletcher et al, 1999? pages 41-58, journal title not given).

The paper by Dr. Fletcher (and others) was, of all the current papers being reviewed, overwhelmingly the most lucid and rational. However, it is sadly apparent that necessary background information on reading instruction was not available even to Dr. Fletcher's group. However, Dr. Fletcher's group did acknowledge that outside factors do influence the development of reading ability. The "Abstract" preceding the paper stated:

"...the neural systems necessary to support reading are not activated independently of effects of the environment. A major question is the influence of environmental factors on the development of these neural activation patterns, particularly the role of instruction..[and].. more complex questions involving changes in brain activation profiles as a function of intervention in children who are poor readers as well as broader questions involving how the brain becomes specialized for reading in development."

Since the Fletcher group acknowledged that the development of reading ability was influenced by outside factors, it seems reasonable to assume that outside factors (poor teaching approaches) might be the cause of the following defect they noted on page 48, less involvement of the left hemisphere when reading, an abnormal condition:

"..the asymmetry of activity favoring the left hemisphere, which is usually observed in proficient readers during reading tasks, has been found to be significantly attenuated in adults with reading problems. (Gross-Glenn et al, 1991)"

Yet, in their following remarks, they found there was no "attenuation" in the use of the left hemisphere in listening tasks between poor and good readers. The condition was present only on reading tasks. Since the left brains of poor readers functioned normally when listening, that certainly implies that some outside influence must have put reading in those poor readers in the right brain, particularly since, in the "Abstract", the Fletcher group said "environmental" influences could do precisely that. They wrote in part on page 49:

"The two groups [good and poor readers] did not differ in activation patterns to the task in which they listened to words, showing patterns predominantly in the left hemisphere that would be expected for such a task. However, on both the word recognitions tasks, Figure 3 shows striking differences in the activation patterns of the good and poor readers. In the children who were good readers, there was...activation of three areas in the left temporoparietal region (essentially the angular gyrus, Wernicke's area, and superior temporal gyrus). In the children with reading problems, the ... temporoparietal areas of the right hemisphere were activated."

So the "good" readers activated the left, including the left angular gyrus, and the "poor" readers activated the right, including the right angular gyrus.

Figure 3 on page 50 showed results from an MRI (magnetic resonance) scan on a poor reader and a good reader, with both the left and right hemispheres shown for each. The poor reader clearly was dominantly using the right hemisphere, and the good reader was using the left. But it is interesting that the “good” reader also showed some clearly visible activity in the right hemisphere in the same general areas as the poor reader. The “good” reader had presumably received the same kind of reading instruction as the “poor” reader and may have originally been reading like the “poor” reader because of what the Fletcher report suggested, poor teaching. The clearly visible activity in the right hemisphere of the “good” reader may have been remnants from that original bad teaching.

Since both good and poor readers were equally able to deal with spoken language, the reasonable assumption can be made that it was “environmental” influences (teaching), which caused the differences observed when reading. Since it is the right hemisphere, which deals with pictures, and the left hemisphere, which deals with sound, an explanation readily presents itself. The poor readers were reading sight words as wholes, like pictures (or like Chinese characters), but the good readers read words as ‘sounds’. However, since Guinevere Eden and her group at Georgetown (reviewed later) concluded that “learning to read evokes hemispheric trade-off”, it seems probable that the “good” readers ALSO learned to read words as wholes like pictures, but managed to achieve what the Eden group calls “hemispheric trade-off.” Yet, the fact that “good” readers are still reading words as wholes, even though they perceive them as sound-bearing, is confirmed by the Shaywitz material (to be discussed later) which showed that the “good” readers scored far better on reading whole words than they did on reading non-words, which were just sounds.

The fact that such “good” readers can deal only with whole words, not syllable sounds, even though they finally manage to use the left brain and the left angular gyrus in reading, is confirmed by a comment appearing in the Government study in 1985, Becoming a Nation of Readers. On page 12, the statement was made (presumably based on actual tests) that present-day readers (almost all of whom would have been taught to read by the sight-word “meaning” method) do not work out pronunciations by “letters and sounds” but by “analogy with known words.”

The Fletcher study commented on page 52:

“A critical question is whether the patterns seen in the poor readers are compensatory or reflect the failure of instruction to impact the brain in a manner necessary to form the neural networks that support word recognition.”

It is easy to answer that “critical question.” The patterns in the poor readers DO reflect the failure of instruction, but they also reflect the failure of instruction in the good readers as well, as shown by the Shaywitz study on non-words, discussed later, which revealed that the “good” readers were unable to read pure syllable sounds with ease.

Figure 5 in the Fletcher paper confirmed the use of the right brain in a poor reader, and the use of the left brain after “intervention and a “significant improvement in reading fluency.”

This is more of the “hemispheric trade-off” cited by Eden. What is very clearly shown, however, is that a significant part of the right brain continues to be activated, even “after intervention.”

Presumably, the subject can read both with left and right brains, a condition unknown in the aphasia cases discussed in the literature before 1912, and clearly unrecognized by Orton, but evident today, as in the study reviewed by Goleman, mentioned later.

What is actually happening with that “improved” use of the left brain and the left angular gyrus? Are words which are presumably now being read for their “sound,” being read as wholes, without clearly differentiating their syllables? Is that the explanation for the remark made to me by an intelligent mother, a registered nurse, about her first-grade son, that he fascinated her because he could deal with words in parts, but she could only deal with words as wholes? In 1903 in Germany, Oskar Messmer wrote of the two kinds of readers he had turned up with perception tests: the objective readers who read accurately from word parts and do not guess, and the subjective readers who read whole words and context-guess (cited in E. B. Huey’s 1908 book, The Psychology and Pedagogy of Reading). Are the readers making the “hemispheric trade-off” (by “intervention” or by presumed “maturation” as in the Eden study) still reading in the Messmer whole-word, guessing, subjective-style, or has it been possible to change them to Messmer objective-style readers, so that they CAN process syllables automatically? I very much doubt the latter, and the Shaywitz data, cited later, indicates that they cannot.

Experimental evidence of the use of the right side of the brain in reading alphabetic print is found in an article that was not on reading but on psychology. For purposes which had nothing to do with reading but only emotions, subjects were tested with special equipment which made it possible to read with either the right or the left side of the brain. Surprisingly, and in apparent contradiction to Orton’s conclusions, these test subjects could, indeed, read with either side of the brain, the left or the right. Yet, what is startling is that these researchers, who were concerned with testing emotions, did not seem to realize that they had established that many modern-day readers can read with either side of the brain, unlike those in the past. The article, “Insights into Self-Deception,” by Daniel Goleman, appeared in The New York Times Magazine, May 12, 1985.

Goleman reported that Richard J. Davidson, a psychologist at the University of Wisconsin,, working with Jonathan Perl and Clifford Saron of the State University of New York at Purchase:

“...employed a device that, by means of a precise arrangement of lenses, projects a word so that it is seen by only that part of the retina that sends signals to the right hemisphere. Then the brain passes the information to the left. In a right-handed person, this means that the right hemisphere, which can register the meaning of words, must transfer the information to the speech center in the left before the person can speak that meaning... When he presented [emotionally influenced] words to the right hemisphere, he found... that a significant time elapsed before the subjects could utter their responses.... And the lag showed up only when the words were presented to the right hemisphere, but not when shown to the left.”

Obviously, a conscious judgment had taken place between reading and speaking when the right was used, but no such conscious judgment took place between reading and speaking when the left was used.

These researchers therefore accidentally turned up two very important facts that had nothing at all to do with the purpose of their research. One fact is that the right brain CAN be used today to read alphabetic print.

The second fact is equally fascinating, because they demonstrated that, when the right brain was used, “meaning” preceded “sound” (pronunciation), but, when the left brain was used, “sound” (pronunciation) preceded “meaning.” With that finding, Davidson, et al, had laboratory proof for Columbia Teachers College Professor Henry Suzzallo’s 1913 triangle in the Cyclopedia, which showed the two possible paths in reading. One path went from “print” in the bottom right-hand corner of the triangle to “sound” in the bottom left-hand corner, and then up to “meaning” at the top point of the triangle (clockwise on the triangle). The other path was in reverse, and went from “print” in the bottom right-hand corner of the triangle straight up to “meaning” at the top point of the triangle, and then down to “sound” in the bottom left-hand corner (counter-clockwise on the triangle). The clockwise path was the indirect approach to “meaning,” going through “sound,” and obviously was the phonic method. However, the counter-clockwise path was the direct approach to “meaning,” and was obviously the sight-word method, in which “sound” was only an unnecessary afterthought (and “sound” was not only unnecessary but useless for deaf-mutes taught to read by the “meaning” of sight-words.)

Multiple studies today, such as that reported by Goleman, and others by present-day brain researchers, show that present-day young American readers can read alphabetic print with BOTH SIDES of the brain, unlike the classic aphasics mentioned in William James 1890 book on psychology, who lost all ability to read after damage to the left side of the brain. They are also unlike the Japanese aphasic patients who lose all ability to read sound-bearing Kana print after specific damage to the left side of their brains.

On page 48, the Fletcher group’s study discussed the Shaywitz group’s earlier 1998 study and its view of “word recognition skill”:

“This [the Shaywitz group’s] approach views word recognition skill as organized along a hierarchy of component processes (Pugh et al, 1996; Shaywitz et al, 1998). At the bottom of this hierarchy is visuospatial analysis, followed by orthographic, simple and complex phonological analysis, and finally semantic analysis. A series of tasks was designed to engage an increasingly greater number of [these] component processes...”

That definition is a multisyllabic description of sight-word reading - or subjective reading, or cart-before-the-horse reading. It is the picking up of memorized whole, “meaning”-bearing sight-words, and only then using the meaning of the context to glue those sight-words together to produce an extended meaning. We certainly do not listen that way: first identifying whole words, and then piecing them together to produce a meaningful syntax, unless we are partially deaf, and cannot hear many of the syllables. We listen by syllables, which build syntax, which builds words.

Reading is - or should be - what it has been since the Greek alphabet was completed about 800 B. C. First, it is true, comes “visuospatial perception” of printed syllables (not “analysis” as was stated by the Shaywitz group in 1998, which implies that a printed whole word is being “analyzed”), then comes syntax, and then absolutely last, of all come “words.”

So the Shaywitz researchers view healthy reading as “word recognition skill.” Yet that is flatly wrong. “Word recognition skill” has nothing whatsoever to do with healthy reading, although it has everything to do with the use made of reading, just as “word recognition skill” has to do with the use made of listening, but is not the act of listening itself. Reading, just like listening, may or may not result in “word recognition” depending on whether or not the syllables being read or heard can generate meaningful “words” to the reader. I can “read” German sufficiently clearly so that a German can understand the meaning of the syllables I am reading. Yet I, who am reading those syllables, cannot. Does that mean I am not reading them?

The Fletcher article also cited research done by three other groups on “proficient” readers and “poor” readers. However, the definition of “proficient” reading is just as thorny a problem as the definition of reading, itself. In the absence of a clear definition from those groups, the assumption is made here that the definition of “proficient reading” that the other researchers used was as faulty as the Shaywitz definition of reading, which is that reading is “word recognition skill....”

Whether or not “meaning” is derived from spoken language (which can be clearly heard) or from printed language (which can be clearly read for sound) is dependent on the listener’s knowledge of the vocabulary and his knowledge of the topic discussed, and obviously on the level of the listener’s intelligence. The “meaning” of the material covered may or may not come once it has been read and heard correctly (and it NEVER comes for computer software which is capable of pronouncing print in a flawlessly accurate voice), but the arrival of “meaning” should be only AFTER the page has been physically read, or the words in the lecture have been physically heard, by their “sound.” Otherwise, what is taking place in the mind of the reader or listener is simply guessing.

By Dr. G. Reid Lyon:

“Reading Disabilities: Why Do Some Children Have Difficulty Learning to Read?
What Can Be Done About It?”

By G. Reid Lyon of the United States Department of Education,
EducationNews.org, July 19, 2003.

Dr. G. Reid Lyon of the United States Department of Education wrote this article which had originally appeared in The International Dyslexia Associations’ Quarterly Periodical, Perspectives, Spring 2003, and which was then made available by EducationNews.org.

The very title of his article makes it evident that Dr. Lyon is not familiar with the history of reading, and so considers it normal for an appreciable number of children to have difficulty in learning to read. Yet, as mentioned earlier, the Saturday Evening Post article in the 1960’s on the Carden phonic method quoted a superintendent of schools who said his schools had NO reading problems, and he offered to show his records to anyone interested. So, to judge from the comments of Dionysius about 20 B. C. and Quintilian about 50 A. D., they must also have found reading difficulties to be almost non-existent.

Yet, in 2003, when most children are not taught to read by the “sound” of print as the Carden children were, a frequent estimate is that more than 20% will have serious trouble learning to read - or more than one out of five. The researcher, Sally Shaywitz, whose work is discussed later, repeated the 20% estimate.

The 20% figure also appeared in a January-February, 1950, article in the magazine, Enfance, Paris, France, “Etude de Quarante Cas de Dyslexie d’Evolution” by Madame Roudinesco, J. Trelat and Madam Trelat. However, those researchers evaluated the 20% figure very differently. They stated that global sight-word (“meaning”) programs produced 20% dyslexics, but “sound” based programs produced only 2%, or ten times less. Yet, unlike Roudinesco and company Shaywitz is obviously considering the 20% figure “normal.”

The physician/psychoanalyst/reading expert, Dr. Hilde Mosse, saw high percentages of disabilities in a different light from Shaywitz. She said on page 261 of her 1982 work, The Complete Handbook of Children’s Reading Disorders:

“Statistical evidence is overwhelming that millions of American children, including those graduating from high school, cannot read. When a disorder affects so many people, one calls it an epidemic. An epidemic is always caused by external forces, not by defects in the individual. This applies to psychologic disorders as much as to physical diseases. When so many children are affected by the same disorder, the explanation cannot possibly be individual psychopathology. Adverse social forces must be investigated as the common cause....”

The obvious cause for the 20% figure is in the environment, from the global, sight-word, “meaning” method. Obviously, the explanation for Lyon’s and Shaywitz’s conviction that reading disabilities are large in number is because they have been dealing with children who were taught by the “meaning,” method, and not by true “sound.”

Yet, from his remarks quoted below, it is apparent that Lyon believes that beginners should be given “meaning-bearing” whole words and story contexts to start with, and only later attach “sound” to those words, as the words are read in meaningful contexts. Therefore, Lyon is endorsing the “meaning” method with its 20% fail rate, according to Madame Roudinesco, instead of the “sound” method with its 2% fail rate.

Lyon wrote:

“In essence, children who are likely to have difficulties learning to read can be readily observed in the initial stages of their literacy development. They approach the reading of words and text in a laborious manner, demonstrating difficulties linking sounds (phonemes) to letters and letter patterns. Their reading is hesitant and characterized by frequent starts, stops, and mispronunciations. Comprehension of the material being read is usually extremely poor. However, it is often not because he or she is not smart enough. In fact, many children who have difficulty learning to read are bright and motivated to learn to read - at least initially. Their difficulties understanding what they have read occur because it takes far too long to read words, leaving little energy for remembering and comprehending what was read. Unfortunately, the slow and inaccurate reading of words cannot be improved in any appreciable way by using the context of what is read to help pronounce the words correctly. Consequently, while the fundamental purpose of reading is to derive meaning from print, the key to comprehension starts with the rapid and accurate reading of words. In fact, difficulties in decoding unfamiliar words and learning to recognize words rapidly are at the core of most reading difficulties. These difficulties can be traced systematically to initial difficulties in understanding that the language that is heard by the ear is actually composed of smaller segments of sound (e. g., phonemic awareness). And here we come full circle - many of these early difficulties in developing phonemic awareness are due to a lack of literacy [sic: literary?] and oral language interactions with adults during infancy and early childhood. Thus, because the environments most bereft of these interactions are those characterized by poverty, the cycle continues.”

G. Reid Lyon stated, “According to the National Center for Educational Statistics (1998) 38% of fourth graders nationally cannot read at a basic level - that is, they cannot read and understand a short paragraph similar to that in a children’s book.”

That statement demonstrates that the shoal on which Lyon has wrecked his research ship is the definition for the reading of alphabetic print. He wrote, “...the fundamental purpose of reading is to derive meaning from print...” By that erroneous definition, my computer with print-reading software was not “reading” when it pronounced aloud my papers for me, nor were all of the children in the Middle Ages reading when they pronounced aloud the Latin print they could not yet understand. Yet the true purpose of the reading of alphabetic print is not to derive “meaning” but instead is to produce the sound flow of language, so that the sound of language can reach the brain through the “eye” instead of its normal route, the “ear.” What is done with that sound flow after it reaches the brain is completely separate from, and should be completely independent of, that sound flow. “Meaning” is only a possible - and actually unnecessary - product of alphabetic “reading.”

“Meaning” never comes to a computer with software that can pronounce alphabetic print flawlessly, but that does not alter the fact that such a computer can read that print.

Obviously, Lyon has cited two different tasks, one is to “read” (which my computer could do for me) and the other is to “understand” (which my computer could not do for me - or do for itself.) It is almost certain that there is NO test data available to show whether those fourth graders could have understood the paragraph if it were read to them! Yet the problem for them almost certainly has absolutely nothing to do with “understanding”, but only whether they could pronounce the print!

Lyon’s entire article is based on confusing those two acts: reading, and understanding, since he is wrongly concentrating on “meaning.” He stated, “In many low-income urban school districts, the percentage of students in the fourth grade who cannot read at basic level approaches 70%.”

Has anyone tested those poor 70% of slum children to see if they could understand the material, if it were read to them? After that, EVEN ONCE, were those slum children tested on low frequency words to see if they could pronounce them, and if they could pronounce names in the telephone book like Heffelfinger and Flanagan and Monahan and DeRensis - or how about G. Reid Lyon (in other words, to see if the children could READ)?

On page 3, Lyon wrote, “Children who received stimulating oral language and literacy experiences from birth onward appear to have an edge when it comes to vocabulary development, developing a general awareness of print and literacy concepts. If young children are read to, they become exposed, in interesting and entertaining ways, to the sounds of our language.”

This is so patently ridiculous. American children - poor or rich - are immersed in television from birth onwards, constantly being exposed “to the sounds of our language,” which would be true even if they only listened to the commercials (which are written by some of the most “literate” of our people, despite their often noxious content). Then Lyon said that the language in a privileged home will “Open the doors to the concepts of rhyming and alliteration, and to word and language play that builds the foundation for phonemic awareness - the critical understanding that the syllables and words that are spoken are made up of small segments of sound (phonemes).”

No child would EVER develop that understanding if it were not specifically taught to him (preferably by the phonic reading method: “cuh - ah - tuh, cat”) Only once in the entire history of mankind, in Greece about 800 B. C., did someone develop the beginnings of “phonemic awareness - the critical understanding that the syllables... are made up of small segments of sound (phonemes).” Some brilliant Greek about that time invented the vowels, and made it possible to expand the Phoenician incomplete syllabary (b = ba, be, bi, bo, bu, ab, eb, ib, ob, ub, etc.). With the invention of the vowels, it became possible for the first time ever to record the syllables of speech precisely, and then the alphabet spread, in various forms, to many parts of the earth. Yet that brilliant Greek still did not think that “the syllables...are made of up small segments of sound (phonemes).” He thought the syllables, themselves, were the smallest possible “segments of sound” - the atoms.

We had to wait until 1654 or 1655 in France, for one of the most brilliant minds in the history of the human race, the mathematician/scientist Blaise Pascal, to split the syllable atom and to realize that “the syllables...are made up of small segments of sound (phonemes).” So toweringly brilliant Blaise Pascal invented synthetic phonics in 1654 or 1655, and even his brilliant sister, Jacqueline, a teaching nun, had trouble understanding it at first. (See “Pascal, Blaise” and “Pascal, Jacqueline” in the Dictionnaire de Pedagogie et d’Instruction Primaire, Paris, France, 1887.) Can we really expect little six-year-old children to do what brilliant Pascal did, unless we carefully teach them how to do it? And, since we should carefully teach them, does it matter then whether they came from a poverty-stricken family or a rich one? Marva Collins in her school for poor Blacks in the Chicago slums, where she taught beginning reading with true phonics (“sound”), had her children reading Chaucer by third grade, and very, very many of her graduates went on to successful college careers. One, considered retarded by the public schools in kindergarten, went to Marva Collins’ school in first grade and later graduated summa cum laude from an Ivy League college.

Lyon wrote, “With this knowledge [ed.: alphabet books, magnetized letters, letter names, etc.] the child is oriented to what is termed “the alphabetic principle” - a principle that explains how sounds of speech (phonemes) become associated with letters of the alphabet (phonics). This principle stands at the core of learning and applying phonics skills to print.”

What a lot of heavy, pretentious, unnecessary verbiage that is! Why did he not just say, “Teach the child to recognize the letters and to learn their sounds.” Then he could call that “the alphabetic principle” if he felt like it, but that does seem a ponderously unnecessary thing to do.

Government-funded research on reading instruction has consistently been unfortunate, such as the recent government-funded study from the National Reading Panel. Yet Lyon quoted some of its conclusions. Not surprisingly, the Panel came up with faulty so-called “evidence based” conclusions on what produced reading success. The “success” came from “instructional programs that provided systematic instruction in phonemic awareness, phonics [Ed.: note the wrongful distinction between the two], guided repeated reading to improve reading fluency [Ed.: an actively harmful practice], and direct instruction in vocabulary and reading comprehension strategies.” [Ed.: reading comprehension is an oxymoron, and, as such, unteachable. Of course, there is nothing wrong in direct instruction in vocabulary unless it is overdone, but it usually is overdone or done badly.]

Lyon reported that the National Reading Panel said that programs using these emphases were “significantly more effective” than those that were less explicit. Then an actively harmful conclusion from the Panel was given, since the Bender Gestalt norms of visual-motor integration show that many four-year-old children cannot yet distinguish between shapes that are far more simple than letter shapes. Lyon wrote:

“The NRP found that children as young as four years of age benefited from instruction in phonemic awareness and the alphabetic principle...”

Obviously, none of what Lyon said above about what was necessary to learn to read would apply to the hosts of children who learned to read in a foreign language, Latin, all through the Middle

Ages, such as Thomas Aquinas, Dante, Chaucer, Christopher Columbus, Leonardo da Vinci, etc., etc., all of whom were highly literate, despite having learned to read in the foreign language, Latin.

Lyon has described the status-quo situation: giving rank beginners texts to decode, instead of word lists, and such texts automatically teach context guessing. Then Lyon gave the standard cause for failure: poor home background, resulting in poor language skills. Of course language skills are necessary if a child has to context-guess from the “meaning” of the text, but it is shocking that Lyon does not realize what a terrible thing it is to give children texts composed of words which they cannot already read in isolation, and then to ask them to “read” those texts! If they cannot read the words in isolation, it means they cannot read the words! Context guessing is not reading but is a disability!

On almost every single count, Lyon and the researchers he cites give the wrong definitions for the terms used in discussing beginning reading. The result is that their references to so-called “phonics” and to so-called “phonics instruction” and to “early intervention” are almost indistinguishable from those which have been promoted by “reading experts” for the last eighty years. Some comfort is even given by the Lyon group to that instructional extreme, “whole language,” because of the “fluency” theme which the Lyon group endorses, the reading over and over of the same text until it can be read “fluently.” That is, of course, not reading at all, but simply memorization. It was done massively in England and America from the 1830’s to about 1900. It was said in the late nineteenth century in America that primary children knew their little reading books by heart. One school inspector in Wales in the 1880’s said the children could go on reading their books if the books fell on the floor. Yet true phonics programs rarely have children read texts more than twice.

By Dr. Guinevere Eden and Others

“Scripted Brains: Learning to read evokes hemispheric trade-off,”

By Dr. Guinevere Eden and Others, Georgetown Center for the Study of Learning, Washington, D. C. Science News, May 24, 2003.

This study was also discussed in a press release from Georgetown News, May 18, 2003. It introduced the thesis that a switch from the left to the right brain in reading is a NORMAL step in maturation. Reading skills are supposedly initiated in the right brain and then slowly (even up to and past adolescence) transferred to the left brain.

Their data are probably irrefutable. What is contested is the explanation for their data, which is that it demonstrates normal maturation. Instead, what it shows (and shows very, very clearly indeed) are the attempts of badly abused brains to heal their own wounds.

The work involved a magnetic resonance imaging study of 41 subjects, ages 6 to 22. Presumably, all learned by “meaning”, since “meaning” has been overwhelmingly the method used in American schools since the 22-year-olds began school about 1986. The 41 subjects would therefore have “meaning” conditioned reflexes. The report said:

“All of them could read at age-appropriate levels and scored similarly on IQ tests.... Even among the youngest readers, reading induced elevated blood flow... in left-brain areas that match printed letters with speech sounds. This activity intensified in older readers...”

That may have been Broca’s area, but only Dr. Fletcher’s group among these researchers used clear terminology.

“Other left-brain areas concerned with recognizing words and discerning speech sounds also displayed greater activity during word reading as age and reading skills increased.

“In contrast, word- inspired activity in a right-brain region used to recognize forms progressively declined with increased age... This brain area may fill in the visual context of words, such as associating the word ‘stop’ with a red, octagonal sign, Eden proposes.”

Presumably, those were the angular gyrus areas - left and right, but, again, no easily understood terminology was used. The report also said:

“The new study represents a first step toward understanding how brain development makes it possible to read..”

The report stated, “...understanding... how brain development makes it possible to read,” but “brain development” has nothing at all to do with learning to read, once an appropriate brain maturation age (6 or 7 years old) has been reached (for which see the Conel drawings in Inside the Brain). Shouldn’t researchers get the same results with a six-year-old learning to read as with a 60 year old? The conditioned reflexes that resulted from reading instruction are the issue, not the maturity of the brain tissues on which those conditioned reflexes operate. The mixed-up

conditioned reflexes of these subjects, undoubtedly caused by sight-word teaching, contradict all data on the brain known from the study of aphasia since Broca in the 1860's, up to the time of Orton in the 1920's. It is not immature brain tissue that is causing the results in this study but most probably the use of the "meaning method" when these subjects were initially taught to read.

But, indeed, it is outrageous to say that research such as this constitutes "A first step"! Clear data on reading and the brain was available long before 1912 and at least as far back as 1887 when Ross wrote on aphasia!

Until brain-research studies are done on two populations - one clearly identified as having been "sound" trained, and the other as having been "meaning" trained, such studies as this are going to produce a great deal of heat by widely distributed public relations releases, but are likely to produce no usable light.

By Sally E. Shaywitz - The First of Two Papers by Dr. Shaywitz Alone -
“On the Mind of a Child: A Conversation with Sally Shaywitz,” By Sally E. Shaywitz,
Educational Leadership, Association for Supervision and Curriculum Development (ASCD),
Alexandria, Virginia. April, 2003.

On pages 3 and 4 of an 8 page reprint of the above article, Sally E. Shaywitz made these remarks::

“In learning to read, children learn how to make connections over a period of time. First they learn the letters of the alphabet, then the sounds that the letters represent, then, progressively, as they see words in print, they start to build a neural model of that word.

“As children learn to read, they may start to represent the word beak by the first letter. They can convert the printed letter b into the /b/ sound. Then they convert the final letter, the k, into the /k/ sound. But, as they learn to read, they clarify their internal representation or neural model. After they’ve read the word correctly a number of times, their neural model is an exact replica of the printed word. It reflects the way the word is pronounced, the way it’s spelled, and what it means....”

“We have to develop fluency word by word. It’s not a stage. ... Children crawl, then they walk. But for reading words, it’s word by word. It is really important to help the child build these exact neural models of each word and word family. Fluency is the goal.”

Shaywitz’s above comments are really disturbing. Overall, they are massively wrong, but she is right that readers do eventually store spelling patterns. But how quickly they do so, and how they do so, and whether they do so as the first step, are very different things.

By February of first grade, the top two-thirds of my first graders, who had learned to read the syllables of print, had “stored” the word spellings of the highest frequency words by casual reading, but with absolutely no formal study on the structure of most of them. The fact that they had done so was apparent from their “creative writing” which contained astonishingly accurate spellings for most of those highest frequency words. Almost all of the highest frequency words they had originally “sounded out” by themselves with their phonic knowledge, with no adult help. The bottom one-third of the class could read (sound out) the same words but had more difficulty storing the word spellings afterwards. Obviously, since they could all read, the first step was NOT the storing of word patterns.

Yet they also all read at a good rate, what the Shaywitz group calls “fluency”. I have never had a first-grader who read in the slow, staccato manner of the bottom readers in my third grade classes for thirteen years. Even for those words that those bottom third graders could read, the pattern was “word, pause, word, pause, word, pause.” My first-grade phonic classes were vastly better than my third-grade sight-word trained classes both in reading fluency and in spelling. Crucial to the success of the first-graders was their firm grasp of vowel sounds and spellings. It is impossible, of course, to produce a syllable without a vowel. Yet Shaywitz wrote on page 4 of her article: “It’s more difficult for the children to figure out what to do with the vowels, the inside letters and sounds.”

Shaywitz is obviously talking of a child looking at a whole sight word that he already has been taught to read as a whole by its “meaning,” (probably because the word had to be read to him first) but who is still puzzled by its “inside letters.” Note the simple word she cited: “beak,” and its “inside letters”, “ea”.

Having taught so many first graders myself, with phonic programs, I know that the children had NO difficulty with the vowels or the “inside letters” in words. Shaywitz’s comments simply confirm what I already know to be true: Children can either be taught to read by “meaning” (the Shaywitz way) or by “sound” (the way all of the world was taught to read alphabetic print for about 2,500 years until 1744).

What Shaywitz wrote about reading stages, all based on the whole-word “meaning” approach, might just as easily have been written by Arthur I. Gates in Gates’ famous 1930 book on how to teach reading, Interest and Ability in Reading.

Yet, by about February of first grade, two-thirds of a truly phonic class can read almost any word fluently at first sight, even though they never saw - or heard - the word before. Phonic classes have absolutely no need for any drill on new words. Yet Shaywitz stated that fluency is dependent on reading the SAME WORD again and again. That means she is starting with the same “given” that Gates and Gray used, that children should be taught a small body of sight words, one word at a time, by constant repetition.

Shaywitz wrote on page 4 of her paper, “Children build the neural model by correctly reading the word over and over again. So repeated oral reading with feedback and kind correction helps students connect how the word is spelled, how it’s pronounced, and what it means.”

That, of course, is the straight “Dick and Jane” approach, of repeating a “new” word a sufficient number of times to memorize it. That is also the method used to teach reading to deaf-mutes. Gates told, in his 1930 text quoted previously, of sight word repetition for deaf-mute 5 to 7 year old children.

In this article, Shaywitz is obviously talking about learning to read with sight words, by “meaning” and not by “sound.” Her comments that a child first had learned the alphabet and its sounds does not detract from the fact that the child she describes is reading a word as a whole, BEFORE he knows its letters, and is only then “analytically” gradually becoming aware of its letter structure so that he can begin to memorize its appearance - but still WITHOUT any awareness of its vowels.

She made the following comment on page 2 of this April, 2003 article:

“But children between 4 and 6 are at the cusp of learning to read. Their spoken language system is in place. They are ready to build the connection to print.... You don’t have to undo faulty connections.”

As clearly shown by the norms for the 1963 Bender-Gestalt test of visual-motor integration by Dr. Elizabeth Koppitz, the majority of children are woefully unready to handle letters and print until they are at least six years old. Some children cannot score more than dismally until they are seven years old. It is no accident that the Soviet psychologists, in control of the curriculum in Soviet schools, held off ALL teaching of beginning reading in the Soviet schools until children reached the age of 7. Nor is it any accident that, when reading was pushed down to the three-years old and four-years old level in post-Reformation Europe, the change was followed by reports of reading difficulties. The fact that some children are mature enough to learn at 4 does not mean that we should assume that all children are ready. When Shaywitz stated, concerning teaching 4 to 6 year olds to read, “You don’t have to undo faulty connections” she was saying the precise opposite of the truth.

By Sally E. Shaywitz - The Second of Two Papers by Dr. Shaywitz Alone
“Dyslexia, A Scientific American Article,” by Sally E. Shaywitz,
Scientific American, 2002, (downloaded and bought from Amazon):

Sally Shaywitz has had her conclusions published in a number of recent articles, such as the preceding article, this article, and the following article. Yet so many of her comments are so plainly wrong! In this article, Shaywitz wrote that she considered the fundamental issue in reading to be that of turning phonemes into words. That obviously omits the critical, fundamental step, turning phonemes into syllables, and syllables come before “words.” It is manifestly true that reading can be done in a foreign language just from its syllables, even though the reader does not know any of the “words,” which would be the case if Latin were read by someone who does not understand Latin.

Shaywitz regards the overwhelming cause for dyslexia to be a single weakness, the inability to blend phonemes. This is oversimplification. The neurologist, Dr. Samuel Orton, did recognize blending ability as a separate skill from the learning of phonemes and said that blending ability had to be developed specifically, but he also considered confusion in directionality to be a serious cause of dyslexia.

Shaywitz stated that dyslexia affects 20% of the population. As discussed earlier, that figure was given by a research group in France in a January-February, 1950 issue of *Enfance*, but it reported that the 20% figure applied only to global “meaning” taught children, while those taught by sound had an incidence of ten times less, or only 2%.

On page 5, Shaywitz’s description of brain involvement is opaque, to put it mildly. Yet the actual brain areas used in reading were identified from much autopsy work done on aphasics, the placement of which were shown over 113 years ago in a simple drawing of the brain in William James’ 1890 text, The Principles of Psychology, (taken from a book by Ross in 1887), and James’ text in other places named those marked areas. The Ross drawing showed what Dr. Hilde Mosse in her 1982 text called the “apparatus” of reading, and, as the James text (and other texts of the general period made clear) the “apparatus” included Broca’s area, Wernicke’s area, and the left angular gyrus (as well as the motor area concerned in speaking).

Broca’s area, Wernicke’s area, and the left angular gyrus (as well as the conscious front portion of the brain and the motor area used in speaking) showed up on the brain blood flow illustration taken while a subject was reading, which illustration (but without those labels) appeared in a Scientific American article, (239 (4): 62, 1978) by N. Lassen, D. Ingvar, and E. Skinhol. Their research had recorded blood-flow changes in the brain during various activities, including silent reading. The 1978 Scientific American illustration for silent reading was redrawn for Inside the Brain, by William H. Calvin, Ph. D., and George A. Ojemann, M. D. (A Mentor Book, New York, 1980), and the simplicity and clarity of that drawing is matched by the many other brain drawings in the Calvin/Ojemann book. They could be understood easily by almost anyone. However, not only is Shaywitz’s verbal description of brain involvement opaque in her Scientific American article (in such sharp contrast to the clarity of the brain illustration for silent reading in the Scientific American 1978 article by Lassen, Ingvar and Skinhol), but in her paper referred to next, her illustrations purporting to show brain activity during reading are virtually incomprehensible.

However, the pre-1890 autopsy data on which James reported, and the 1887 Ross drawing that James reproduced were obviously correct, since they were confirmed by the illustration of a blood-flow study done by 1978 on a living person who was reading. Therefore, why do researchers like Shaywitz fail to use clear-cut terms and clear illustrations in reporting research results, as was done by William James in 1890, by Lassen, Ingvar, and Skinhol by 1978, and by the two authors, the psychologist, Calvin, and the neurologist Ojemann, in 1980, and by Dr. Fletcher's group about 1999?

Dr. Shaywitz's comments in all these papers demonstrate her support of the sight-word "meaning" method in beginning reading. That support is demonstrated further by a quotation that was attributed to her during the conflict on the absolutely dreadful New York City reading program recently installed by the New York City administrator, Klein. What is particularly interesting is that Shaywitz, with this quotation, was supposed to be opposing the basic New York program and supporting phonics, while administrator Klein was on the opposite side of the argument. Yet what Shaywitz endorsed as having "improved" the program was clearly only sight-word, jig-saw-puzzle, phony phonics, and not the real thing. An article of August 3, 2003, by Mr. James Traub in opposition to the program reported the following:

"In the aftermath of the uproar, Mr. Klein added a more orthodox program, developed by Voyager Expanded Learning in Dallas, for those who need such instruction. Ms. Shaywitz calls Voyager "a wonderful program with real data" supporting its effectiveness; she hopes it is widely used."

"The city says children will be tested and those deemed to be falling behind will get 10 to 20 minutes of Voyager instruction a day, depending on grade."

Unlike Voyager, true phonics programs precede and do not follow the reading of texts. Yet Shaywitz (presumed to be on the "conservative" side in the conflict with Klein of the New York City schools) approved a program for a little bit of tacked-on phonics, tacked onto the reading of sight words. So, obviously, did Klein (the "progressive" side). Both are presuming that the question, "How should we teach reading" is to be answered by, "Teach sight words first so children can read something, and then tack on phonics if they cannot remember or cannot context guess enough of the words on their so-called 'leveled' readers."

Yet children who are taught comprehensive, real phonics BEFORE they are expected to read texts do not need phonic drills like Voyager and do not need the "leveled" readers spoken of in Traub's article. That is because most phonics-trained children are reading independently by the end of first grade.

The phonic material should ideally be reviewed at the beginning of second grade, particularly for the stragglers. Hand such properly-taught children the telephone book, and they will be able to read from it names like Segalowitz and Heffelfinger, etc. Properly taught first-graders, at the end of the year, can read with the near perfection of the software on my old 1989 Tandy computer, which read the papers I wrote back to me, in its peculiar computer voice. The computer's oral reading accuracy was phenomenal, but its "reading comprehension," of course, was absolute zero. Properly taught first graders by the end of the year will also have phenomenal oral reading accuracy, but their "reading comprehension" might not be too much above zero on papers written for adults, but would be a function of the first-graders' mental age.

By Dr. Sally E. Shaywitz and Others-
'Neural Systems for Compensation and Persistence: Young Adult Outcome of Childhood
Reading
Disability.' By Sally E. Shaywitz and Eleven Others, Including G. Reid Lyon of the United
States Department of Education, Biological Psychiatry, the Journal of the Society of Biological
Psychiatry, 9 pages (54:25-33), 2003

The following appears in the Introduction:

“...the prevalence of dyslexia is estimated to range from 5% to 17% of school-age children (Shaywitz 1998). There is now a strong consensus that the central difficulty in dyslexia reflects a deficit within the language system and, more particularly, in a lower level component, phonology, which has to do with the ability to access the underlying sound structure of words.”

Dr. Shaywitz made it clear in the two papers just discussed (a) that her estimate of difficulties was 20%, not 5 to 17%, and (b) that she thought that beginning readers should begin reading with whole words, as shown by her comments on a child's only gradually coming to understand that a word he can already read, “beak,” has central letters, ‘ea’, which have a particular sound. Yet a child who is taught to read by “sound” and not by “meaning” does not need what this Shaywitz study calls a pre-existing “ability to access the underlying sound structure of words” because the child is given the underlying sound structure of words at the exact same time that he is taught to read those words. He reads those words BY THE SOUNDS of their letters (b - ea - k, beak) and not BY THE MEANINGS of the word forms (“A beak is what a bird has in place of a mouth.”)

However, dyslexia certainly can be caused by teaching such whole word forms, instead of explicitly teaching successive letter sounds in words. Children who are faced with meaningless jumbles of letters (meaningless to the beginning readers) which they are told stand for particular words do, indeed, have difficulty later accessing “the underlying sound structure” of those words all by themselves. Why NOT teach children the “sound structure” of a word at the precise moment that the word itself is presented? The need to do that in teaching beginning reading is so self evident that the failure of “reading researchers” to recommend satisfying that very obvious need is, indeed, an enigma wrapped in a puzzle.

The young adults tested in this brain research by Dr. Sally E. Shaywitz, et al, had been subjects in a previous study entitled the Connecticut Longitudinal Study. Since 1983, when they were five years old and until they finished secondary school, the reading of these subjects had been tested at 2nd, 4th, 9th, and 10th grades. Apparently, the first published report by Shaywitz and others on this group appeared in 1990. The method by which the subjects were taught to read about 1983 or 1984 was not given. Nevertheless, their reading scores as adults do answer the question, “How were they taught to read?” As will be explained, those statistics demonstrate that the subjects had been taught to read by the “meaning” of print (sight words) and not by its sound (true phonics). Predictably, many of them later showed great difficulty in accessing “the underlying sound structure” of words.

Yet the failure of the Shaywitz, et al, study to provide information on the beginning reading methods used to teach its subjects is surprising, (actually negligent), because of the conflict that has existed for so long on beginning reading. Since at least 1955, in which year Dr. Rudolf Flesch's best-seller appeared, Why Johnny Can't Read, almost thirty years before the Connecticut Study began, differences in beginning reading instruction and their effects on reading competence has divided people into two camps. One promotes the teaching of beginning reading by the "meaning" of print (sight-words and psycholinguistic guessing) and the other promotes the teaching of beginning reading by the letter sounds of print (phonics, although that term is often badly defined).

The conflict had become so intense after 1955 but before 1967 that a famous United States Office of Education Government-funded study on first-grade reading was carried out in an attempt to determine the optimum method to teach beginning reading. (It included many hybrid programs as well as those which taught more or less straight "sound" and more or less straight "meaning"). The first-grade results were published in 1967.

A USOE follow-up study on second-grade reading published in 1968 was of particular interest because it was to include oral reading accuracy scores. This would have been the only large-scale oral reading accuracy study ever done comparing sight-word-taught classes to phonically taught classes. However, almost no valid and clear oral reading accuracy studies of any kind had been done before 1967 after the hoary oral reading accuracy data from Gates about 1923 and from Gray from 1913 to about 1918.

A very few oral reading accuracy tests with statistically arrived at "norms" from private testing are published today, including updated versions of Gates' and Gray's material, but such generalized test "norms" are of limited - even vague - value. W. S. Gray's oral reading test, in particular, which he began directly under Thorndike at Columbia Teachers College in 1913-1914, and which gave crystal clear scores on its paragraphs in 1915 (what percentage of children read above the frustration level of 90%, and what percentage read below it), was "improved" at the University of Chicago by Gray into near uselessness in 1917. On page 30, Shaywitz et al published the "scores" for the young adults in this study on a far newer version of the Gray "improved" oral reading test of 1917. As is evident, the scores are, effectively, largely a meaningless jumble of numbers.

The scarcity of oral reading accuracy studies is sharply contrasted to the literally thousands of silent reading studies on record. Yet the only way it is possible to tell if a child is really reading, or only guessing at print, is to hear the child read orally. Therefore, since we have virtually no oral reading accuracy data on large groups of children, we really do not know anything about how well children are actually reading today outside their controlled vocabulary textbooks. "Reading comprehension" tests are frequently only exercises in context guessing, so they cover up, and do not reveal, reading problems.

The first-grade USOE comparative oral reading accuracy study, which was available, had been done about March of first-grade on children who were still in the process of learning to read and so was of limited value. However, because of the almost total lack of any real data on oral reading accuracy, the second grade USOE data would have been of enormous value. It was to

include scores on the reading of word lists, and scores on the Gilmore Oral Reading paragraph-style test of 1952, which had been prepared by John V. Gilmore and published by World Book Company. Gilmore's test was virtually the only such oral test available at the time of the study in 1967, except for Gray's revised test, except for a Columbia Teacher's College test for individuals which included some of Gates' word lists from 1924, and except for the "reading expert" Schonell's oral tests in England.

About 1980, when Geraldine E. Rodgers placed a telephone call to Dr. Robert Dykstra (a "sound" advocate who had worked on compiling the 1968 USOE test statistics) to ask where the 1968 oral reading accuracy data for all the second grade groups could be found, Dr. Dykstra said that someone had accidentally pulled the wrong switch or pushed the wrong button and had accidentally wiped out the 1968 statistically treated second-grade oral reading accuracy data, by which it would have been possible to compare "sight-word" taught classes to "phonically" taught classes. Yet that would have been the only large-scale study of its kind that had ever been done. Furthermore, no such large-scale oral reading accuracy study has been done since then, despite massive amounts of reading research that has been underwritten by the Federal Government.

It is precisely the fact that the Shaywitz, et al large-scale study is the first one since Gates in 1924 to present firm statistics on oral reading accuracy that makes the Shaywitz study so enormously valuable, even though it has rather glaring shortcomings in other ways. The precise data from the oral tests in the Shaywitz study are very different from Gilmore's simple printed norms and are therefore far more meaningful, being more like the precise oral reading accuracy data from Gates and Gray so long ago in 1915 and 1924.

Despite the unhappy USOE accident, it was generally recognized by 1968 that real differences might result in reading competence from different methods used to teach beginning reading. Yet no such recognition appears in the Shaywitz, et al, study, and that is a glaringly obvious omission. Even as late as 2003, it should have been possible to check back to determine the reading texts that had been in use in 1983 and 1984. Yet the Shaywitz, et al, 2003 study made no mention whatsoever of the beginning reading method for its subjects. That failure obviously might have seriously jeopardized the results of the study except for the happy fact that the statistics themselves establish that the subjects were taught by the sight-word "meaning" method, as will be demonstrated.

Since these researchers are primarily concerned with brain function, they certainly should have been familiar with that Japanese research (mentioned earlier) which established that there are two mutually exclusive ways that the brain processes the two kinds of Japanese print (Kana sound-bearing and Kanji meaning-bearing). By analogy, Shaywitz et al should have surmised that the brain might deal with the two kinds of alphabetic print (sound-bearing phonics or meaning-bearing sight-words) very largely in the same way. Yet no indication whatever was given that these researchers were familiar with the Japanese data and its significance.

The subjects in the Shaywtiz, et al, study were divided into three groups, depending on their previous scores in the Connecticut Longitudinal Study. One group was labeled NI (non-impaired readers), the second was labeled AIR (accuracy improved readers) and the third PPR (persistently poor readers).

The non-impaired NI group had scored acceptably in 2nd, 4th, 9th, and 10th grades. The accuracy-improved AIR group had scored unacceptably in 2nd and 4th but acceptably in 9th and 10th. The persistently poor readers, the PPR group, had scored unacceptably in 2nd, 4th, 9th, and 10th.

This appeared on page 31:

“The two groups of disabled readers (AIR and PPR) began school with comparable reading skills and sharing similar family socioeconomic status but with AIR exhibiting better cognitive ability.... The current findings suggest that greater cognitive abilities may provide some degree of compensation for a reading difficulty; ... a larger vocabulary and better reasoning skills are helpful when a struggling reader is trying to decipher unknown words. If the word is in his spoken language vocabulary, the beginning reader may recognize the word even if he can only partially sound it out. Strong reasoning abilities also help this reader to use the context around an unknown word to figure out its meaning...”

These comments are terribly disturbing. It is almost inconceivable that anyone could accept such a situation as that described above as the price for using the sight-word “meaning” method. Such confusion can so easily be avoided by use of the truly phonic “sound” method. However, since it was presumed that the AIR readers may have “improved” in exactly the terrible way outlined above, it can be seriously questioned whether the “accuracy-improved” label given this brighter group really means anything, other than that they have become very adept word guessers.

Not surprisingly, the Shaywitz group’s brain patterns for the AIR subjects were the most abnormal. The probability is that the group was abnormal in its brain patterns initially, but since they were bright, and since they apparently were never really taught how to read but only how to guess whole sight words, they eventually “succeeded” at that task so that they could pass “reading comprehension” questions. Yet the scores on the Gray oral reading accuracy test, even though they are objectively incomprehensible, do suggest by comparing the relative sizes of the scores that the AIR, just like the PPR group still cannot really read. Their Gray oral reading accuracy scores (for whatever unstated percentage of errors they were supposed to represent) were very, very much lower than the same scores for the NI group, and far closer to the PPR group.

Gray Oral Reading Accuracy (1991, Weiderholt and Bryant)

Non-Impaired (NI)	12.2
Accuracy Improved (AIR)	5.7
Persistently Poor Readers (PPR)	3.1

Brain patterns were observed on all three groups while they were being subjected to:

“...functional magnetic resonance imaging (fMRI) to examine brain activation patterns while the subjects engaged in two visually presented tasks: 1) deciding whether two pseudowords rhymed (nonword rhyme [NWR] (e.g. Do [LEAT] and [JETE] rhyme?) And 2. judging whether two real words were in the same category (CAT) (e.g., Are [CORN] and [RICE] in the same category, [3] A line judgment task (L) (e.g., Do [/] and [/] match? ...Subjects lay supine in the imaging system.... stimuli were projected on the screen....”

Therefore, to summarize the above quotation which was not stated very clearly, while the subjects' brains were being scanned, the tasks were as follows:

1. One task, "L", was to tell if the direction of two slanted lines matched, which lines were the same as the right and left leaning slashes on the typewriter and computer keyboards. Since the right slash and its opposite, the left-leaning slash, are very familiar to any user of computers and have to be distinguished fairly often when using the computer, and since most of the subjects in this age group would have that familiarity, the task represented probable learned behavior, although no note was made of that fact. However, perceptual and right-left confusions might cause a lower score, since the lines are identical except for the direction in which they lean.
2. Another task, non-word rhyme, NWR, was to read orally two rhyming non-words, which were spelled differently (such as "leat" and "lete").
3. The third task, CAT, was to judge whether two real words were in the same category, e. g., "Are corn and rice in the same category?"

The purpose of the study, of course, was primarily to observe the differences in the action in the brain for each of these three previously identified groups when reading, and not just to obtain test scores, because the researchers already knew who were the good and who were the weaker readers. However, the scores on page 26 are, nevertheless, of real interest, despite the remark, "We designed the tasks to produce near-ceiling level performance, so variability was limited." As is evident from the following, even for the Non Impaired, these are not ceiling level performances.

<u>Test L – Line</u>		<u>Test NWR Non-Word Rhyme</u>	<u>Test CAT Real Words</u>
Non-Impaired (NI)	97	88	97
Accuracy Improved Readers (AIR)	94	81	95
Persistently Poor Readers (PPR)	90	71	90

Some simple accuracy testing was also done outside the brain-scanning equipment, which meant without observing the effect on the brain. That kind of score was shown on page 29, for the "out of magnet" reading.

	<u>High Frequency Words</u>	<u>Low Frequency Words</u>
Non-Impaired (NI)	96%	94%
Accuracy		
Improved	92%	92%
Persistently Poor		
Readers (PPR)	92%	83%

Both scores for the presumably Non-Impaired readers were far, far too low and prove that the “non-impaired” readers were, indeed, very impaired readers. Competent readers should score almost flawlessly on such words, at 100%, or more rarely at 99%, but certainly no lower.

The comments on page 30 of this research report on some of the data are obscure to the point of being opaque. It was reported that the data for rhyming pseudowords, NWR:

“are consistent with functional brain imaging studies showing a failure of left hemisphere posterior brain systems to function properly in both adults and children with dyslexia while they perform reading tasks. In contrast, left posterior reading systems were activated during reading real words in both NI and PPR.”

Why are not “left posterior reading systems” clearly spelled out by the use of terms that have been in the literature for at least 113 years, since William James wrote his Principles of Psychology, and that were used by Dr. Hilde Mosse in her 1982 text and in the Fletcher, et al, report of about 1999? What this obscure statement presumably means is that the weakest adult group failed to employ the left angular gyrus area in reading the pure sound of print (Non-Word Rhyme NWR), which fact was consistent with other studies. Yet, along with the non-impaired group, (NI) the weakest group did manage to employ the left angular gyrus area when reading sight words (CAT). This presumably means that their finding that the weakest group did employ the left angular gyrus area at all ran counter to other studies.

If that interpretation of the opaque remarks on page 30 is correct for these adult disabled readers, the PPR, it would match the “trade-off” reported for sight-word trained readers in the article, “Scripted Brains...” , whose subjects were reported as gradually moving their crippled reflexes from the right to the left brain as they matured. What these data may show is that even the most damaged group, the PPR, may have done that on the sight words in the CAT, but could not yet do so when dealing with non-word rhyming.

The following appeared on page 31:

“Children need to be able to sound out words to decode them accurately, and then, they need to know the meaning of the words, to help decode and comprehend the printed message. Both the sounds and the meanings of words must be taught.”

That is simply wrong. Meanings do not need to be taught at all at the beginning level, any more than they have to be “taught” to print-reading software. As the Russian psychologist, Elkonin, said, anyone who can pronounce a page of print correctly, independently of the meaning of the

print, is able to read. Of course, hidden in the above is the fundamental error, that “to read” means “to read meaning-bearing words,” when what it should really say is ‘to read sound-bearing syllables.’”

The presumption was made that the results showed three classes of readers, the normal group, and two initially disabled groups, described below:

“Two possible etiologies for childhood reading disability: primarily a genetic type with IQ scores over 100 and a more environmentally influenced type with IQ’s below 100.”

They are probably correct about the “genetic” type, because that AIR group showed very different patterns in their brain studies (to the extent that it was possible to distinguish anything at all in the incredibly poor brain illustrations). Yet the “environmentally influenced type”, PPR, should be recognized as the product of failed teaching, despite their lower IQ’s..

The test that best distinguished inborn ability was the first test, the slash L test, despite the subjects’ probable familiarity with the computer keyboard, where the slash occurs in both left and right forms. The scores were: NI 97, AIR, 94, and PPR, 90. It might initially seem surprising that any subjects had difficulty with this. Nevertheless, it is apparent that PPR did, and AIR less so, so it seems probable that letter orientation, like slash line orientation, must have given both of these groups at least some problems, and might still do so, even as adults. Of course, the “slash” reading is also a kind of clerical skill, and people who reverse phone numbers easily would certainly reverse the slashes. The slash test really has little bearing on reading.

The third test, the CAT test, to determine if sight words such as “corn” and “rice” are in the same category, actually tested two things: the ability to read the words, and the ability to reason. Surprisingly, this task had the least variation: NI 97, AIR 95, and PPR 90.

It was on the second test (such as, “Do ‘leat’ and ‘jete’ rhyme?”) that major disabilities in all these subjects appeared. This test, requiring no judgment at all, and something that phonically taught first-graders would not find at all difficult, and that computer software can do flawlessly, should have been easier than the category judgment, and yet all fell below what is called the “frustration” level of 90% on a test of connected oral reading. NI, the “best” scored 88, AIR 83, and PPR, 71.

Therefore, none of these subjects could sound out non-word rhyming NWR pseudowords at a passing rate. That means that, if they had been presented with a speed test on new connected oral reading that contained difficult vocabulary, they might all have failed. However, the low score on the NWR pseudo-words for the NI “good” group may well be because the NI good group probably has learned to use time-consuming, two-step, cut-and-paste sight-word phonics (phonics by whole-word analogies: cat + mop = cop). Yet that cumbersome activity takes considerably more time than sounding and blending one-step phonics c - o - p = cop). It is also obvious, except to someone in the currently dominant reading instruction community, that cut-and-paste sight- word phonics is a terribly wasteful and harmful approach to teach children, instead of simple one- step phonics.

A way exists to compare the subjects in the Shaywitz, et al, research sample to phonically trained children, even in the absence of test data on phonically trained children. That is because properly taught phonically-trained children are taught to read the sound of print automatically, in the same way that computer software reads it. Therefore, to see how well-trained phonics students would do, simply give the oral non-word test to print pronouncing software. If all the pseudo-words on the non-word rhyming, NWR test were typed into a computer, and the oral software were activated to read them, the reading speed and the accuracy rate could be recorded. It would result in an accuracy of 100% and an almost instantaneous speed in speaking.

If “leat” and ‘jete’ (or any of the words on this test) had been given to my cheap Firstbyte software on my Tandy computer from fourteen years ago, they could have been read with virtually no errors, at 100% or certainly no lower than 99%. I can say that with confidence, because I do not recall that the Firstbyte software ever made any errors reading my compositions back to me. The software, of course, reads phonically by syllables, except for those very few high frequency words (or syllables) which are spelled irregularly and which had been programmed in to be read correctly. Yet the Shaywitz, et al, study groups were incapable of reading phonically, so all three groups scored FAR, FAR below 99% on the “leat”- “ jete” test. Ergo, the statistics show that the Shaywitz, et. al, subjects had been taught by “meaning.”

The report on this study included two fuzzy and confusing “Figures,” or illustrations. The first, Figure 1, about 3 inches by four inches, carried in its tiny rectangle 18 separate tiny drawings of the brain shape, and each tiny one of the 18 had up to 17 faint multiple numbers on it to identify brain portions, the 17 numbers being identified by a key elsewhere on the page showing the labels for the parts of the brain marked with those numbers. Yet none of the terms in that key were the classic ones. No areas were labeled or discussed in the classic manner, as by William James in 1890, Ross in 1887, and others around the beginning of the twentieth century, which areas are still recognized as part of what Dr. Hilde Mosse called “the reading apparatus.” Those areas are Broca’s, Wernicke’s, and the back of Wernicke’s, the left angular gyrus. Yet the Fletcher material had crystal-clear illustrations and the study did sometimes use the classic terms.

Also in Figure 1, besides the numbers on each of the tiny brain drawings, confused, largely indistinguishable tiny mixed patches of color also appeared. Those different colored patches purported to contrast one group to another (“composite maps” for the NI, AIR, and PPR groups.) Not only were the numbers almost indecipherable, but so was the meaning of those contrasting colors unless they could be studied with the most intense concentration, and I am not at all sure that they would mean much even then. I am surprised that any publication would print such faulty material as Figure 1, but, even if they had enlarged the illustrations, that garbled “composite map” treatment would have made it intolerably obscure. Figures 2 and 3 were not much better. The illustrations in this article were nothing like those, for instance, that appeared in the 1978 Scientific American article on blood- flow changes during silent reading, nor in the Fletcher paper.

Concerning these virtually undecipherable brain illustrations on the Shaywitz et al research, the following comment might apply, if it were possible to understand those illustrations. The use of both sides of the brain on a single task is not normal for higher-level activities. Instead, dominance (the use of one side of the brain) is normal. Even though the left side of the brain can ultimately be dominant for sight-word trained readers (suggested by the study by Eden, et al (“Scripted Brains...”), the failure of the Shaywitz’ subjects to use pure sound (“leat,” “jete”) but instead apparently to depend on whole-word analogies implies that the “sound” on which they eventually draw does not include the sound made by syllables but only the “sound” made by whole words.

That the “sound” on which the Shaywitz et al subjects could ultimately draw was the “sound” only of whole words and not syllables, appears to be confirmed by the comment in the 1985 Government study, Becoming a Nation of Readers referred to previously. The statement was made on page 12 of that study (presumably based on actual tests) that present-day readers (almost all of whom would have been taught to read by the sight-word “meaning” method) do not work out pronunciations by “letters and sounds” but by “analogy with known words.”

As can be assumed from the study reported in ‘Scripted Brains: Learning to read evokes hemispheric trade-off,’ the Shaywitz et al subjects would initially have learned to read sight-words as “wholes” by the right brain, and, when the switch to the left was made, therefore had to switch with “whole words,” not syllables. As a result, their “phonics” when it is ultimately used is only the cut-and-paste whole-word analogy phonics outlined in the 1883 Boston reading curriculum (the language of which strongly suggests that its author was the psychologist, William James, as I discuss at length in my 1998 book, The Hidden Story). The Shaywitz et al subjects have been made incapable of dealing properly with syllables, the real bedrock of speech and reading, as demonstrated by their failing grade of 88% on the leat-jete section.

Nevertheless, Shaywitz, et al, have produced an immensely meaningful study, despite its indecipherable illustrations and its obscure text. The Shaywitz study has demonstrated, by its non-word rhyming NWR oral reading test scores, completely apart from its brain data, the existence of massive disabilities in readers who were presumed, initially, to have been “successful” readers, the Non-impaired NI group. Those presumably “successful” readers were shown to be so disabled on the non-word-rhyming oral test that they would be unable to pronounce 12 of every 100 phonically regular, but previously unknown syllables. That was demonstrated by their score of 88% on the “leat, jete” test, and demonstrated that they would read below the frustration level (90%) on a speed reading test on a selection with an appreciable number of unfamiliar spellings. In other words, if they were presented with words that were not “know”, and did not have ample time for jig-saw-puzzle phonics, they would be reading failures. Since heavy, technical material is composed of such phonically regular but “new” words, even the so-called “non-impaired” group would be unable to read it without undue study, effort and frustration. In the truest sense of the words, even the “best” Shaywitz et al readers are “functionally illiterate” because they were taught to read by the “meaning” of print instead of its “sound.”

However, the accuracy-improved readers AIR group apparently are atypical in their responses, as shown by the brain illustrations. Although not suggested in the study, it seems likely that they may always have been atypical, and that their early perceived reading problems may have arisen from that fact.

In summary, this Shaywitz et al study is flawed because it failed to explain the incredibly low scores in the reading of pseudowords by all of its adult subjects, even though those same pseudowords could be read fluently by phonically taught first-grade students or by the oral reading software on a computer. This study was flawed because of its failure to determine the method by which its subjects were taught to read. It was flawed in its conclusion by its failure to realize that not just one group, but all three of its groups, were “impaired” readers.

Yet it did produce an enormously important result, completely apart from its brain studies. It reported on the first large-scale oral reading testing that has been done in close to a century, since William S. Gray carried out his oral reading tests of paragraphs, begun under the psychologist, E. L. Thorndike, in 1913, which he continued to 1917 (and later), and since Arthur I. Gates, Thorndike’s former student and then-associate, tested oral word lists in 1923 and 1924. The scores on this highly important Shaywitz et al oral test data have established that the sight-word “meaning” method, the same method that was promoted by Gray and Gates in 1930 and which since has been omnipresent in American schools, has succeeded in producing exceedingly grave reading disabilities in an entire group of adult readers.

Conclusion

All of the above is “research” that is separated from the real world of the public schools. It therefore seems very appropriate to end this discussion about reading by reporting on oral reading in a typical fifth and sixth grade class just this month, October, 2003, in a class that had been scored as “passing” by a state testing program - a “typical” United States class. Yet does the reading reported below rate that as “passing” grade?

Since almost no oral reading is done in classrooms above the primary level, reading disabilities are hidden even from classroom teachers - but not to wise substitute teachers, who can ferret out the facts by having children read orally. The following remarks were made in October 2003, by just such a substitute teacher, which he labeled appropriately, “A Typical Day in a Public School.” Notice also that some children do manage to succeed, but that just helps to hide the fact that the great majority do not. Those children, of course, may very well have been taught to read at home. The substitute teacher wrote:

“My school called for me to teach a fifth and sixth grade class for a teacher who was sick. The kids were reading a book called *Pinwheels*. Here are some mistakes I logged:”

“asked - called, every night - over night, thirty - twenty, front - for, now - how, mouth - month, of - from/for, well - we, chance - change, mason - mace, early - really, sew - sell, in - on, soul - swell.”

“Fifth and sixth graders reading like this - pure guessing. To beat it all, they all passed the state achievement test last year. There were some excellent readers. For some of them, vowels are inconsequential, they can put any vowel in that they want.”

Of course, these students treated the vowels as inconsequential, because the sight-word programs, which crippled their reading, taught them to do precisely that. Yet the sight-word programs go on and on, infesting the New York City public schools and most of the schools all over the United States. In comparison to the reading instruction scandal in the United States, the Enron scandal was certainly only “small time.”

About the Author

On sabbatical leave in 1977-1978, Geraldine E. Rodgers observed first-grade instruction and tested resultant second-grade oral reading in America and Europe (using part of an IEA test form). The oral reading of about 900 second graders in their own languages demonstrated that two opposite types of readers (or mixtures of the types) result from teaching beginning reading by “sound” or by “meaning”. She later discovered that Oskar Messmer in 1903 turned up the two types in his research, naming them “objective” and “subjective”. Current researchers remain oblivious to the fact that there are two types of readers, one very competent (objective “sound”) and one very incompetent (subjective “meaning”).

About the Book

Two different and opposite kinds of readers are developed at the very beginning stages of reading instruction as the result of different and opposite kinds of teaching. One kind of reader is taught to read by the “sound” of print and reads automatically and with great accuracy. The other kind of reader is taught to read by the “meaning” of print, as Chinese characters are read, and not only reads inaccurately, but is actually encouraged to do so by so-called “psycholinguistic guessing”. The Born-Yesterday World of the Reading Experts reviews some of the recent papers by highly recognized “experts.” It explains why little beginning readers are critically harmed when are taught to read by the “meaning” method outlined by these “experts”. Such “experts” seem to know nothing about the history of reading, and little about the very nature of reading itself.

Note from Internet Publisher: Donald L. Potter

November 25, 2003

It gives me a great sense of satisfactions to be able to publish Miss Geraldine Rodgers' in-depth review of recent brain based research, The Born-Yesterday World of Reading "Experts" A Critique on Recent Research on Reading and the Brain, on the www.donpotter.net website.

Both the author and Internet Publisher grant full permission for any honorable use of these materials.

Readers of this paper will want to follow up by reading Miss Rodgers' three volume work, *The History of Beginning Reading: From Teaching by "Sound" to Teaching by "Meaning,"* and her single volume work, *The Hidden Story: How America's Present-Day Reading Disabilities Grew Out of the Underhanded Meddling of America's First Experimental Psychologist.*

Here are links to material by Miss Rodgers that is available for free on my website:

1. *History of Beginning Reading: From Teaching by "Sounds" to Teaching by "Meaning."*
<http://donpotter.net/pdf/history.pdf>
2. "Why Noah Webster's Way Was the Right Way"
<http://donpotter.net/pdf/why-noah-webster-was-right.pdf>
3. Don Potter's "Quotes from The Hidden Story."
<http://donpotter.net/pdf/hidden-story-quotations.pdf>
4. Historical Introduction to Leonard P. Ayres' A Measuring Scale for Ability in Spelling.
<http://donpotter.net/pdf/ayres-historical-introducti.pdf>
5. Charlie Richardson's Letter to Sally E. Shaywitz - based on Mrs. Rodgers research
http://donpotter.net/pdf/richardson_shaywitz.pdf
6. Here is my YouTube presentation introducing The Hidden Story.
<https://youtu.be/BuGb6YEXF4Y>

Phonics-first methods for teaching students to read from the "sounds" can be found on the www.donpotter.net website. I have also published several other papers by Miss Rodgers.

In 2007 Mr. Potter launched his *Nationwide Blend Phonics Education Campaign*. This campaign features Hazel Loring's 1980 phonics-first program for teaching reading "from the sounds" as recommended in Miss Rodger's essay. To learn more of the Campaign and the materials Mr. Potter has published for free download and purchase from Amazon or Barnes & Nobles, visit the following website. Mr. Potter has used this method continuously since 2007 to teach beginning and remedial reading to students from kindergarten through adult.

www.blendphonics.org

Donald L. Potter last edited this document on December 11, 2017 and January 20, 2018.