# TEACHING CHILDREN TO READ ${ }^{1}$ 

by Leonard Bloomfield

## 1. What is Reading ?

Literacy is the most important factor in keeping up our civilization, and teaching children to read is the most important task of our schools. We perform this task clumsily and with a great waste of labor and time. Even at the end of eight years many of our pupils cannot be said to read; yet eight months ought to suffice.

This is not due to a lack of pedagogic methods. The most excellent teaching technique is bound to give poor results so long as the teacher does not know what to teach.

It is generally assumed that a teacher, who knows how to read, understands also the linguistic processes that are involved in the act of reading. No one assumes that a cook who prepares a cup of coffee understands the chemical processes which he has called into use. Everybody knows that there is a science of chemistry - that chemical processes have been systematically observed and analyzed - and everyone who deals with chemistry, in the way of teaching or otherwise, makes use of the knowledge that has been gained by generations of scientific study. In quite the same way, though not everyone knows it, human speech has been systematically observed and analyzed. Generations of work have been spent upon this subject, and many useful and interesting facts have been brought to light. ${ }^{2}$ No one, not even the cleverest person, could hope, by his unaided efforts, to duplicate these results. Our schools will continue to waste time and energy and to reap meager success unless and until the teacher in the early grades knows the main linguistic facts and principles that play a part in the act of reading.

This essay is planned to present - in a practically useful arrangement - these facts and principles.

## 2. Speech and Writing

To understand reading, one must understand the relation of written (or printed) words to speech.
Compared to speech, the use of writing is something artificial and relatively modern. To be sure, writing was used thousands of years ago in Egypt and in Mesopotamia, and the art of writing has never since then been lost. Our own alphabet is probably a descendant of the ancient Egyptian hieroglyphs. However, until recently, the art of writing was confined to a very few nations, and within these nations to a very few persons. It is only within the last two hundred years that literacy has become widespread in a few countries. Most languages have never been represented in writing; it may be that less than half of the people alive today know how to read and write.

Written notations in the English language began to be made only some centuries after the beginning of the Christian Era. For several centuries these notations were confined to words or brief

[^0]phrases; they were made in the clumsy alphabet known as Runes, and only a few pagan priests or magicians were able to read them. It is only around the year 800 or so that we get connected texts written in English in the ordinary Latin alphabet. Even then the art of reading and writing was confined to the priesthood. Slowly this art spread to wider and wider classes, but anything like general popular literacy has arrived only within the last hundred years. It is well to recall also that in the Middle Ages the few persons who knew how to read and write did most of their reading and writing in Latin rather than in their native language.

To the present-day literate person it seems almost incredible that people could get along without reading and writing, and that even today many savage tribes are in this position, and many civilized nations contain a great proportion of illiterates. What happens to a language if the people who speak it have no books - no dictionaries, grammars, spelling books, and so on? The answer to this question was one of the first and most surprising results of linguistic study: unwritten languages function and develop in the same way as languages that have been reduced to writing. In fact, taking the great mass of human history, the non-use of writing is the normal state of affairs, and the use of writing is a special case and, until very recent times, a most unusual case. The effect of writing on language, where there is no popular literacy, is practically nothing, and where there is popular literacy, as among us, the effect of writing is merely to introduce a few small irregularities into the process of linguistic development. This, of course, is the opposite of the popular view, but it is the result of every investigation that has been undertaken and is today firmly accepted by every student of language.

Writing is merely a device for recording speech. A person is much the same and looks the same, whether he has ever had his picture taken or not. Only a vain beauty who sits for many photographs and carefully studies them may end by slightly changing her pose and expression. It is much the same with languages and their written recording.

For our present purpose we need only understand how speech is recorded by means of written or printed signs.

Language consists of sounds - musical sounds and noises. These sounds are produced by movements of the speaker's vocal organs (larynx, tongue, and so on). These movements produce sound waves in the air, and these sound waves strike the hearer's eardrums. In this way we signal to one another, and the signals are what we call language.

Suppose we want to signal to someone who cannot be reached by the sound of our voice - to someone far away, or to coming generations. Nowadays we could use the radio or make a phonograph record. These are modern inventions, and writing is only a somewhat less modern invention of much the same kind.

There have been many systems of writing, but all of them seem to consist of three devices or of various mixtures of these three devices: picture writing, word writing, and alphabetic writing.

## 3. Picture Writing

First, there is picture writing, in which you simply draw a picture that represents the story you would tell your reader if you couid reach him by the sound of your voice. Some tribes of American Indians were great picture writers. ${ }^{3}$ Here is an American Indian's picture message: ${ }^{4}$

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At the center are two crossed fines; at one side of these there is a gun and a beaver with thirty little strokes above it; at the other side are sketches of a fisher, an otter, and a buffalo.

This means: "I will trade you a fisher-skin, an otter-skin, and a buffalo-hide for a gun and thirty beaver pelts."

A message like this is effective, provided the writer and reader are in accord as to the meaning of the pictures. They must agree that the crossed lines mean an art of trading, and that the set of strokes means a number, and that the animals are a beaver, an otter, a fisher, and so on. These things are determined by convention: the beaver is always drawn in one way, the otter in another, and so on for every animal, so that even a poor draughtsman can show which animal he means.

The important feature of picture writing is that it is not based upon language at all. A reader who knows the conventions by which the pictures are drawn, can read the message even if he does not understand the language which the writer speaks. If the reader knows that the picture of an animal with a big tail means a beaver, he can get this part of the message, even though he does not know how the word for beaver would sound in the writer's language. In fact, he can read the picture correctly, even if he does not know what language the writer speaks. Without going too far into the psychology of the thing, we may say that the reader does not get the speech sounds (the words or sentences) which the writer might use in conversation, but he gets the practical content (the "idea") which in conversation he would have got from hearing those speech sounds.

## 4. Word Writing

The second main type of writing is word writing. In word writing each word is represented by a conventional sign, and these signs are arranged in the same order as the words in speech. Chinese writing is the most perfect system of this kind. There is a conventional character for every word in the language. To write a message you put the character which represents the first word into the upper right hand corner of the paper, below it you write the character for the second word, and so on; when you have reached the bottom of the page you start again at the top, to the left of the first word, and form a second column down to the bottom of the paper, and so on. Each character
represents some one Chinese word. As the vocabulary of a literate person runs to about twenty thousand words, this means that in order to read even moderately well, one must know thousands of characters. Learning to read Chinese is a difficult task, and if the Chinese reader does not keep in practice, he is likely to lose his fluency.

It is probable that word writing grew out of picture writing; at any rate, in the system known to us, some of the characters resemble conventionalized pictures. However, the difference between these two kinds of writing is far more important for our purpose than any historical connection. The characters of word writing are attached to words, and not to "ideas." In picture writing you could not distinguish such near symbols as, say, horse, nag, steed; but in word writing each one of these words would be represented by a different character. In picture writing very many words cannot be represented at all - words like and, or, but, if, because, is, was, and abstract words like kindness, knowledge, please, care - but in word writing each such word has a conventional symbol of its own.

We ourselves use word writing in a very limited way in our numerals, $1,2,3,4,5,6,7,8,9,0$ and in signs like $\$,+,=, \mathrm{X}$ (in arithmetic, representing the word "times"). The symbol 5 , for instance, by an arbitrary convention, represents the word five, and the symbol 7 represents the word seven. There is no question of spelling or sound involved here; the symbol is arbitrarily assigned to the word. The characteristic feature of word writing, from the point of view of people who are used to alphabetic writing, is that the characters, like our 5 and 7, do not indicate the separate sounds which make up the word, but that each character as a whole indicates a word as a whole. Viewing it practically, from the standpoint of the teacher and pupil, we may say that there is no spelling: the written sign for each of the words (four, seven, etc.) has to be learned by itself. You either know that the character 7 represents the word seven or you don't know it; there is no way of figuring it out on the basis of sounds or letters, and there is no way of figuring out the value of an unfamiliar character.

Word writing has one great advantage: since a character says nothing about the sound of the word, the same character can be used for writing different languages. For instance, our numeral digits (which, as we have seen, form a small system of word writing) are used by many nations, although the corresponding words have entirely different sounds. The following table shows the words which are represented by the characters 1 to 9 in English, German, French, and Finnish.


The advantage of this is that we can all read each other's numbers. Different regions of China speak different dialects which in part are mutually unintelligible, for the extreme differences are perhaps as great as between English, Dutch, and German. But thanks to a system of conventions like that of our numeral digits, a piece of Chinese writing is readable in all parts of China, regardless of the different-sounding words, just as the digit 4 is readable all over Europe, although the words of the various languages sound very differently.

## 5. Alphabetic Writing

The third main type of writing is alphabetic writing. In alphabetic writing each character represents a unit speech sound. The literate Chinese, with his system of word writing, has to memorize thousands of characters - one for every word in his language - whereas, with an alphabetic system, the literate person needs to know only a few dozen characters - one for each unit speech sound of his language. In order to understand the nature of alphabetic writing we need to know only what is meant by the term unit speech sound, or, as the linguist calls it, by the term phoneme.

The existence of unit speech sounds, or phonemes, is one of the discoveries of the language study of the last hundred years. A short speech - say, a sentence - in any language consists of an unbroken succession of all sorts of sounds. When we hear speech in our own language, the sounds are so familiar and the meaning is so obvious that we do not notice the mere noise effect, but when we hear an entirely strange language, we wonder if there can be any system in such a gibberish of queer noises, and we may question whether it could ever be reduced to alphabetic writing. Systematic study has shown, however, that in every language the meaning of words is attached to certain characteristic features of sound. These features are very stable and their number ranges anywhere from around fifteen to around fifty, differing for different languages. These features are the unit speech sounds or phonemes. Each word consists of a fixed combination of phonemes. Therefore, if we have a written character for each phoneme of a language, the sum total of characters will range anywhere from fifteen to fifty and with these characters we shall be able to write down any word of that language.

The existence of phonemes and the identity of each individual phoneme are by no means obvious: it took several generations of study before linguists became fully aware of this important feature of human speech. It is remarkable that long before scientific students of language had made this discovery, there had arisen a system of alphabetic writing - a system in which each character represented a phoneme. It seems that alphabetic writing has developed out of word writing, and that this remarkable development has taken place only once in the history of mankind - somewhere between 2000 and 1000 B.C. at the eastern end of the Mediterranean, with the Egyptians, the Semitic-speaking peoples (such as the Phoenicians), and the Greeks successively playing the principal role.

All forms of alphabetical writing, then, are offshoots of a single original system. The details of this origin and of the later history, so far as we can get at them, are of great interest but would carry us too far afield. It is important for us to know that alphabetic writing was not invented at one stroke, as a finished system, but that it grew gradually and, one could almost say, by a series of accidents, out of a system of word writing. Neither then nor at any time since was there any body of experts who understood the system of phonemes and regulated the habits of writing.

Accordingly we find many ups and downs in the perfection of the system. The ancient Greeks seem at some times and places to have reached an almost perfect application of the alphabetic principle and then to have lapsed from it: in medieval and modern Greek writing the alphabetic
principle is very poorly carried out. A similar story could be told of the ancient Romans. Among modern nations, some have almost perfect alphabetic systems (such as the Spanish, Bohemian, and Finnish systems of writing), but others have relatively imperfect systems (such as the Italian, Dutch, or German), and still others have extremely imperfect and arbitrary systems (such as the modern Greek, and French, and the English).

## 6. English Writing is Alphabetic.

We can illustrate the nature of alphabetic writing by means of English examples, for, in spite of its many imperfections, our system of writing is in origin and in its main features alphabetic. This is proved by the simple fact that we can write every English word by means of only twenty-six characters, whereas a system of word writing would demand many thousands. As an illustration we may take the written representation of the word pin:
pin

It consists of three characters, and each of these three represents a single phoneme. If anyone told us to use these three characters to represent the word needle, we should find the suggestion absurd, because these characters do not fit the sound of the word needle. That is, each of the three characters $p, i, n$ is used conventionally to represent a unit sound of our language. This appears plainly if we compare the written symbol for other words, such as pig and pit, or bin and din, or pan and pun; or if we reverse the order of the letters and read nip, or if we place the letter $p$ at both ends and read pip.

The alphabetic nature of our writing apprars most plainly of all, however, when we put together a combination of letters that does not make a word and yet find ourselves clearly guided to the utterance of English speech sounds; thus, nobody will have trouble in reading such nonsense syllables as nin, mip, !ib. Alphabetic writing differs entirely from picture writing in that the visible marks do not represent things or stories or "ideas." As a picture of a pin. the marks
pin
are simply no good at all. Alphabetic writing differs from word writing in that the characters arc not assigned, one by one, in an arbitrary, take-it-or-leave-it system, to words, but rrpreseot unit speech sounds, so that the way of writing each word bears a close relation to the speech sounds which make up that word.

If our system of writing verre perfectly alphabetic, then anyone who knew the value of each letter could read or write any word. In reading, he would simply pronounce the phonemes indicated by the letters, and in writing he would put down the appropriate letter for each phoneme. The fact that we actually can do both of these things in the case of nonsense words, such as nin or mip, shows that our system of writing is alphabetic.

In order to read alphabetic writing one must have an ingrained habit of producing the phonemes of one's language when one sees the written marks which conventionally represent these phonemes. A well-trained reader, of course, for the most part reads silently, but we shall do better for the present to ignore this fact, as we know that the child learns first to read aloud.

The accomplished reader of English, then, has an overpracticed and ingrained habit of uttering one phoneme of the English language when he sees the letter $p$, another phoneme when he sees the letter $i$, another when he sees the letter $n$, still another when he sees the letter $m$, still another when he sees the letter $d$, and so on. In this way, he utters the conventionally accepted word when he sees a combination of letters like pin, pit, tip, tin, nit, dip, din, dim, mid. What is more, all readers will
agree as to the sounds they utter when they see unconventional combinations, such as pid, nin, pim, mip, nid, nim, mim. It is this habit which we must set up in the child who is to acquire the art of reading. If we pursue any other course, we are merely delaying him until he acquires this habit in spite of our bad guidance.

## 7. Irregular Spelings

English writing is alphabetic, but not perfectly so. For many words we have a conventional rule of writing which does not agree with the sound of the word. Take, for instance, the two words which are pronounced nit. One is actually spelled nit, but the other is spelled knit, with an extra letter $k$ at the beginning, a letter which ordinarily represents one of the phonemes of our language, as in kin, kit, kid.

When we study the history of our language - and this, again, is a branch of the study of linguistics - we learn that up to about two hundred years ago the word knit (along with other words like knee, knife, knave) was actually spoken with a " $k$-sound" (that is, with the initial phoneme of words like kin, kit, kid) before the $n$-sound. In fact, we are told that in some places in England the country people still speak in this older way. About two hundred years ago the prevalent manner of speaking English changed: the initial $k$-sound before $n$ was dropped. However, the old tradition of writing persisted, all the books one read spelled the word with this letter $k$, and people simply kept on writing it as they had always seen it written. So far as reading is concerned, this extra letter $k$ makes no difference at all, for (owing to the above-mentioned change in pronunciation) no English word now begins with sounds $k$ plus $n$, and when we see a word written with the initial letters $k n$, we have the habit of not trying to pronounce the $k$.

Now someone may ask whether the spelling of knit with $k$ does not serve to distinguish this word from nit "the egg of a louse." Of course it does, and this is exactly where our writing lapses from the alphabetic principle back into the older scheme of word writing. Alphabetic writing, which indicates all the significant speech sounds of each word, is just as clear as actual speech, which means that it is clear enough. Word writing, on the other hand, provides a separate character for each and every word, regardless of its sound, and at the cost of tremendous labor to everyone who learns to read and write. Our spelling the verb knit with an extra $k$ (and the noun nit without this extra $k$ ) is a step in the direction of word writing. This convention goes a little way toward giving usa special picture for the verb knit (as opposed to its homonym, the noun nit) and it does this at the cost of a certain amount of labor, since the reader must learn to ignore initial $k$ before $n$, and the writer must learn where to place it (as in knit, knight, knave) and where not to place it (as in nit, night, nave). However, we shall have enough to do later with the irregularities of our spelling; for the present it is far more important to see that in its basic character, in its bones, blood, and marrow, our system of writing is alphabetic - witness merely the fact that we get along with twenty-six characters instead of twenty-six thousand.

## 8. Phonic Methods

The letters of the alphabet are signs which direct us to produce sounds of our language. A confused and vague appreciation of this fact has given rise to the so-called "phonic" methods of teaching children to read. These methods suffer from several serious faults.

The inventors of these methods confuse writing with speech. They plan the work as though the child were being taught to pronounce - that is, as if the child were being taught to speak. They give advice about phonetics, about clear utterance, and other matters of this sort. This confuses the
issue. Alphabctic writing merely directs the reader to produce certain speech sounds. A person who cannot produce these sounds cannot get the message of a piece of alphabetic writing. If a child has not learned to utter the speech sounds of our language, the only sensible course is to postpone reading until he has learned to speak. As a matter of fact, nearly all six-year-old children have long ago learned to speak their native language; they have no need whatever of the drill which is given by phonic methods.

In exceptional cases, children get into school before they have thoroughly learned to speak. A child may replace the $r$-sound by the $w$-sound, saying wed instead of red, or he may replace the $t h$ sound by the $f$-sound, saying fin instead of thin, or his speech may be altogether indistinct and blurred. Conditions like these may be due to gross anatomical defects, such as a cleft palate; or to a deep-seated deficiency of the nervous system, such as idiocy; or to minor nervous faults, as is the case in stuttering; or to social maladjustment, which will prompt a child to seek advantage in such things as baby talk; or they may be due simply to the fact that he speaks some language other than English, so that English speech sounds are foreign to him. In all such cases, the economical course and the course that is best for the child, is to remove the defect of speech before trying to make the child read. In some cases, to be sure, this cannot be done. The extreme and typical case of this kind is that of deaf-and-dumb children. Such cases demand very elaborate care and training; they must be dealt with in a manner very different from ordinary reading instruction. In short, the problem of teaching children to speak is entirely different from that of teaching children to read. In all normal cases, the child has learned to speak before we are called upon to teach him to read, and our task is merely to give him the habit of uttering the familiar speech sounds at the sight of the printed or written letters. To ignore this distinction, as the phonic methods do, is to befuddle the whole process.

The second error of the phonic methods is that of isolating the speech sounds. The authors of these methods tell us to show the child a letter, for instance $t$, and to make him react by uttering the $t$-sound; that is, the English speech sound which occurs at the beginning of a word like two or ten. This sound is to be uttered either all by itself or else with an obscure vowel sound after it. Now, English-speaking people, children or adults, are not accustomed to making that kind of noise. The phoneme [ $t$ ] does not occur alone in English utterance; neither does the phoneme [ $t$ ] followed by an obscure vowel sound. If we insist on making the child perform unaccustomed feats with his vocal organs, we are bound to confuse his response to the printed signs. In any language, most phonemes do not occur by themselves, in isolated utterance, and even most of the successions of phonemes which one could theoretically devise, are never so uttered. English speakers do not separately pronounce the sound of $[\mathrm{t}]$ or $[\mathrm{p}]$ or $[\mathrm{u}]$ as in put, and a succession like [ s p$]$, for instance, as in spin, does not occur alone, as a separate utterance. Learning to pronounce such things is something in the nature of a stunt, and has nothing to do with learning to read. We must not complicate our task by unusual demands on the child's power of pronouncing. We intend to apply phonetics to our reading instruction; this does not mean that we are going to try to teach phonetics to young children. In this absurdity lies the greatest fault of the so-called phonic methods.

## 9. The Word Method

In spite of the special methods, such as the "phonic" method, which have been advocated at various times, the actual instruction in our schools consists almost entirely of something much simpler, which we may call the word method. The word method teaches the child to utter a word when he sees the printed symbols for this word; it does not pretend to any phonetic breaking-up of the word. The child learns the printed symbols, to be sure, by "spelling" the word - that is, by
naming, in proper succession, the letters which make up the written representation of the word, as see-aye-tee: cat, and so on. No attempt is made, however, to take advantage of the alphabetic principle. If one examines the primers and first readers which exemplify the various methods that have been advocated, one is struck by the fact that the differences are very slight: the great bulk of the work is word learning. The authors are so saturated with this, the conventional method, that they carry their innovations only a very short way; they evidently lack the linguistic knowledge that would enable them to grade the matter according to relations between sound and spelling. It is safe to say that nearly all of us were taught to read by the word method.

The word method proceeds as though our writing were word writing. Every word has to be learned as an arbitrary unit; this task is simplified only by the fact that all these word characters are made up out of twenty-six constituent units, the letters. In order to read a new word, the child must learn the new word character; he can best do this by memorizing the letters which make up this new word character, but these letters are arbitrarily presented and have nothing to do with the sound of the word.

If this plan could be consistently carried out, our children would be in much the same position as the Chinese child who has to acquire a system of word writing. Like him, they would have to learn thousands of complex symbols, one for each word in the language. Learning to read would be the task of years, and any serious interruption of practice would result in wholesale forgetting. Actually, the child's nervous system is wiser than we are: in spite of our not telling him the values of the letters and in spite of our confusing hodgepodge, the child does acquire, unknowingly, a habit of connecting letters with speech sounds. This appears from the fast that he learns to read in less time than would be required by a genuine system of word writing; it appears also in some of the child's mistakes, such as trying to read debt with a $b$-sound or walk with an $l$-sound - mistakes which show that the child is operating, however imperfectly, on an alphabetic principle.

The most serious drawback of all the English reading instruction known to me, regardless of the special method that is in each case advocated, is the drawback of the word method. The written forms for words are presented to the child in an order which conceals the alphabetic principle. For instance, if near the beginning of instruction, we present the words get and gem, we cannot expect the child to develop any fixed or fluent response to the sight of the letter $g$. If we talk to him about the "hard" and "soft" sounds of the letter $g$, we shall only confuse him the more. The irregularities of our spelling - that is, its deviation from the alphabetic principle - demand careful handling if they are not to confuse the child and to delay his acquisition of the alphabetic habit.

Our teaching ought to distinguish, then, between regular spellings, which involve only the alphabetic principle, and irregular spellings, which depart from this principle, and it ought to classify the irregular spellings according to the various types of deviation from the alphabetic principle. We must train the child to respond vocally to the sight of letters, and this can be done by presenting regular spellings; we must train him, also, to make exceptional vocal responses to irregular spellings, and this can be done by presenting systematically the various types of irregular spelling. For instance, we must train the child to respond by the $k$-sound to the sight of the lester $k$ in words like kiss, kid, kin, kit, but we must also train him not to try pronouncing a $k$-sound when he sees the written $k$ in the words like knit, knife, knee, knight.

The material in existing primers and readers is not thus graded, because the authors of these books lacked the linguistic training necessary for such a classification. The knowledge required to make this classification is not very profound. In fact, the teacher who reads over the list in this book will soon grasp the principles that are involved, and in doing so will have acquired all the phonetics needed for ordinary instruction in reading. Although this knowledge is easily gained, persons who
lack it are likely to make troublesome mistakes. For instance, the author of a treatise on reading methods asks how we ought to teach children to read the word of. He does not know whether we ought to read it with the sound of $f$ as in if or with the sound of $v$ as in have; the latter pronunciation he thinks is "careless" and imprecise. This author is to be blamed not so much for his ignorance of phonetics as for his failure to consult a book or a person who could tell him the answer. He is in the position of a writer on chemistry who at this day and age deliberated in print as to whether diamonds were or were not a form of crystallized water. As a matter of fact, a glance into Tite New English Dictionary ${ }^{5}$ shows that the word of was pronounced with the sound of $f$ (as in $i f$ ) up to about the time of Shakespeare. At that time there occurred a change which resulted in two forms of the word: as a preposition (unstressed) it received the sound of $v$ (as in have) and in this use it is now spelled of and pronounced $o v$, but as an adverb (stressed) it kept the old $f$-sound, and in this use it is now spelled off. The pronunciation which this author prefers, then, has been out of existence for more than three hundred years.

The author of a textbook or the classroom teacher does not need a profound knowledge of phonetics; he needs only to realize that information on this subject is available and that he need not grope about in the dark.

## 10. Ideational Methods

Although the various methods that have been advanced are in practice only slight adaptations of the universal method of word reading, it will be worth our while to glane at another method, which has some vogue, namely, the sentence method or ideational reading. This method attempts to train the child to get the "idea" or content directly from the printed page.

When a literate adult reads, he passes his eyes rapidly over the printed text and, scarcely noticing the individual words or letters, grasps the content of what he has read. This appears plainly in the fact that we do not often notice the misprints on the page we are reading. The literate adult now observes the laborious reading of the child, who stumbles along and spells out the words and in the end fails to grasp the content of what he has read. The adult concludes that the child is going at the thing in a wrong way and should be taught to seize the "ideas" instead of watching the individual letters.

The trouble with the child, however, is simply that he lacks the long practice which enables the adult to read rapidly; the child puzzles out the words so slowly that he has forgotten the beginning of the sentence before he reaches the end; consequently he cannot grasp the content. The adult's reading is so highly practiced and so free from difficulty that he does not realize any transition between his glance at the page and his acceptance of the content. Therefore he makes the mistake of thinking that no such transition takes place - that he gets the "ideas" directly from the printed signs.

This mistake is all the more natural because the adult reads silently; since he does not utter any speech sounds, he concludes that speech sounds play no part in the process of reading and that the printed marks lead directly to "ideas." Nothing could be further from the truth.

The child does his first reading out loud. Then, under the instruction or example of his elders, he economizes by reading in a whisper. Soon he reduces this to scarcely audible movements of speech; later these become entirely inaudible. Many adults who are not very literate move their lips while reading. The fully literate person has succeeded in reducing these speech movements to the point

[^2]where they are not even visible. That is, he has developed a system of internal substitute movements which serve him, for private purposes, such as thinking and silent reading, in place of audible speech sounds. When the literate adult reads very carefully - as when he is reading poetry or difficult scientific matter or a text in a foreign language - he actually goes through this process of internal speech; his conventional way of reporting this is that he internally pronounces or "hears himself say" the words of the text. The highly-skilled reader has trained himself beyond this: he can actually shunt out some of the internal speech movements and respond to a text without seeing every word. If you ask him to read aloud, he will often replace words or phrases of the printed text by equivalent ones; he has seized only the high spots of the printed text. Now this highly skilled adult has forgotten the earlier stages of his own development and wants the child to jump directly from an illiterate state to that of an overtrained reader.

The marks in a piece of American Indian picture writing represent things, or, if you prefer, ideas. The characters in a piece of Chinese writing do not represent things (or ideas) but words. The letters in a piece of English writing do not represent things, or even words, but sounds. The task of the reader is to get the sounds from the written or printed page. When he has done this, he must still, of course, perform a second task: he must understand the meaning of these sounds. This second task, however, is not peculiar to reading, but concerns all use of language; when we are not reading, but hearing spoken words, we have the same task of appreciating the content of what is said. The ideational methods, in short, show us the age-old confusion between the use of writing and the ordinary processes of speech.

It is true, of course, that many children in the upper grades - and even, for that matter, many postgraduate students in the university - fail to seize the content of what they read. It was this unfortunate situation which led to the invention of ideational methods in reading instruction. This, however, meant confusing two entirely different things. A person who can read aloud a text that is before his eyes, but cannot reproduce the content or otherwise show his grasp of it, lacks something other than reading power, and needs to be taught the proper response to language, be it presented in writing or in actual speech. The marks on the page offer only sounds of speech and words, not things or ideas.

So much can be said, however: the child who fails to grasp the content of what he reads is usually a poor reader also in the mechanical sense. He fails to grasp the content because he is too busy with the letters. The cure for this is not to be sought in ideational methods, but in better training at the stage where the letters are being associated with sounds.

The extreme type of ideational method is the so-called "non-oral" method, where children are not required to pronounce words, but to respond directly to the content. They are shown a printed sentence such as Skip around the room, and the correct answer is not to say anything, but to perform the indicated act. Nothing could be less in accord with the nature of our system of writing or with the reading process such as, in the end, it must be acquired.

It is not easy for a student of language to speak patiently of such vagaries, in which educationalists indulge at great cost to thousands of helpless children. It is exactly as if these same educationalists should invent their own guesswork system of chemistry and introduce it into our schools.

Even the most elementary understanding of systems of writing suffices to show the fallacy of "ideational" reading. The kind of writing which can be read ideationally is picture writing. There the visible marks directly represent the content and do not presuppose any particular wording. In word writing and in alphabetic writing, the visible marks are tokens for speech forms and not for "ideas." The visible word marks tell the Chinese reader to speak (out loud or internally) such and
such words of his language. The visible letters of alphabetic writing tell us to speak (out loud or internally) such and such phonemes of our language. If the Chinesc reader or we choose to skip the less important of these directions and to notice only the high spots, we can go all the faster, but we do not accurately reproduce the author's words; as soon as the exact wording is important, as in a poem or a difficult exposition, we do in fact accurately follow the visible signals to speech. In short, the black marks on paper which represent an English word, say,

## horse

do not represent the shape or smell or any other characteristics of a horse, or even the "idea" (whatever that may be) of a horse; they merely direct us to utter the speech sounds which make up the English word horse. These speech sounds, in turn, are connected for us as a kind of signal, with the animal, and it is only through these speech sounds that the black marks

## horse

on the paper have any connection with the animal, or, if you will, with the "idea" of the animal. The adult's instantaneous step from the black marks to the "idea" is the result of long training. To expect to give this facility directly and without intermediate steps to the child is exactly as though we should try to teach the child higher mathematics (which solves complicated problems with power and speed) before we taught him elementary arithmetic. If we insisted on doing this, the child would merely learn elementary arithmetic in spite of us, from our inappropriate examples, and he would not get his higher mathematics until he had, in this irksome way, acquired his elementary arithmetic. Moreover, his mathematics, arithmetic and all, would remain shaky, unless and until, again in spite of us, he had by a vast amount of repetition, gained sureness in the elements which we had neglected to teach him. In practice, the ideational and sentence reading methods are so overwhelmingly diluted with the word method that the children taught in this way are but slightly less sure of themselves than are the pupils of less modern practice.

## 11. The Content

The circumstances which lead the more intelligent but linguistically untrained schoolman to seek an "ideational" method is the distressing fact that many older students and adults are unable to get the content from a printed text. We have all heard of the devastating results of experiments in which pupils or adults are given a paragraph to read, and then are asked to reproduce the content; a large proportion of the persons tested are unable to make anything like a correct statement of what the author was trying to tell them. The schoolman concludes that these people were not properly taught to read, and therefore seeks to make elementary reading instruction bear more directly on the content. In this, however, he confuses two entirely different things - the ability to respond to visible marks by uttering speech sounds and the ability to respond correctly to speech. The child who is laboring to find out what words or phrases he must utter when he sees certain printed marks cannot be expected at the same time to respond correctly to the meaning of these words or phrases. If he has spelled out the words Bill hit John, we need not be surprised that we can trap him with the question "Whom did John hit?" His problem is to say the correct word or phrase when he sees the black marks, and, indeed, this is enough of a problem; it takes a sophisticated but linguistically untrained adult to underestimate its difficulty. The other problem, which the schoolman confuses with ours, is the problem of responding correctly to speech, and it concerns actual speech just as much as reading. When one tests graduate university students by making a simple oral statement and asking them to reproduce it, the result is just as discouraging as that of similar reading tests. This is a problem which our schools have to face, and the beginning will doubtless have to be made in the earliest grades, but the one place where this problem most certainly cannot be solved is in the
elementary instruction in reading, where the child has all he can do to pass from the visual symbols to the spoken words.

In fact, an understanding of the latter difficulty will lead us to see our problem in its simplest terms. Aside from their silliness, the stories in a child's first reader are of little use, because the child is too busy with the mechanics of reading to get anything of the content. He gets the content when the teacher reads the story out loud, and later on, when he has mastered all the words in the story, he can get it for himself, but during the actual process of learning to read the words he does not concern himself with the content. This does not mean that we must forego the use of sentences and connected stories, but it does mean that these are not essential to the first steps. We need not fear to use disconnected words and even senseless syllables, and, above all, we must not, for the sake of a story, upset the child's scarcely-formed habits by presenting him with irregularities of spelling for which he is not prepared. Purely formal exercises that would be irksome to an adult are not irksome to a child, provided he sees himself gaining in power. In the early stages of reading, a nonsense syllable like nin will give pleasure to the child who finds himself able to read it, whereas at the same stage a word of irregular spelling, such as gent, even if introduced in a story, will discourage the child and delay the sureness of his reactions.

There is always something artificial about reducing a problem to simple mechanical terms, but the whole history of science shows that simple mechanical terms are the only terms in which our limited human capacity can solve a problem. The lesser variables have to wait until the main outline has been ascertained, and this is true even when these lesser variables are the very thing that makes our problem worth solving. The authors of books on reading methods devote much space to telling why reading is worth while. The authors of these books would have done far better to stress the fact that the practical and cultural values of reading can play no part in the elementary stages. The only practical value of mathematics lies in its application in commerce and science, but we do not try to teach economics and physics in connection with first-grade arithmetic. The only practical value of responding correctly to the letters of the alphabet lies in the messages which reach us through the written or printed page, but we cannot expect the child to listen to these messages when he has only begun to respond correctly to the sight of the letters. If we insist upon his listening, we merely delay the fundamental response.

If you want to play the piano with feeling and expression, you must master the key-board and learn to use your fingers on it. When you have mastered the keyboard and the fingering, you may still fail for other reasons, but certain it is that if you have not the mechanical control, you will not be able to play.

## 12. Before Reading

The first step, which may be divorced from all subsequent ones, is the recognition of the letters. We say that the child recognizes a letter when he can, upon request, make some response to it. One could, for instance, train him to whistle when he saw an A, to clap his hands when he saw a B, to stamp his foot when he saw a C, and so on. The conventional responses to the sight of the letters are their names, aye, bee, cee, dee, ee, ef, and so on, down to zee (which in England is called zed). There is not the slightest reason for using any other responses.

The letters have queer and interesting shapes; their interest is enhanced if they are presented in colors. Begin with the printed capitals in their ordinary simple form. When these have been mastered, cake up the small printed letters. The written forms of the letters should not be taught until reading habits are well established; the early introduction of writing is a cause of delay.

The child should be familiar with all the letters, capital and small, of the printed alphabet before reading is begun. Not all of them will be used in the first reading work, but we do not want the reading work, at any stage, to be upset by the appearance of unfamiliar shapes.

Every teacher knows, of course, that the pairs $b$ and $d$ or $p$ and $q$ involve a fairly abstract geometrical distinction and have to be carefully presented and practiced. Another feature of the same kind is that of the left-to-right order of our writing and printing. This presents difficulty to some children. The left-to-right order of printed marks corresponds to a sooner-to-later order of spoken sounds and forms. That is, the letters are arranged from left to right in a succession that corresponds to the succession in time of the corresponding phonemes (e.g., p-i-n corresponding to the spoken sound of the word pin), and the words, also, are arranged from left to right in a succession that corresponds to the succession in time of the spoken words (e.g., Give me a pin). This stems simple to us only because of our long practice; in reality it involves considerable abstraction and demands careful teaching. The beginning should be made before reading is begun, in connection with the letters; the letters are presented in alphabetic order and their names read off from left to right. Then other combinations of letters should be presented, including actual words. The child need not even be told that the combinations are words; and he should certainly not be required to recognize or read the words. All he needs to do is read off the names of the successive letters, from left to right.

All this belongs to the stage before the child starts to read. Before the child reads we present the letters, capital and lower-case, the numeral digits, and exercises in the left-to-right and top-tobottom orders. The work should go on until the child can name each letter when it is shown to him and can name in the proper (left-to-right) order a sequence of letters shown to him. The pictures in the before-reading stage show objects which move from left to right.

If the children do not have printed material for the before-reading stage, the teacher must exhibit the letters on the blackboard. In drawing pictures or diagrams to show the left-to-right order, one must be careful to avoid ambiguous subjects. For instance, a railway train is not a good subject. When a train passes us, we set first the locomotive, then the tender, then the baggage car, and so on, but if we draw the train accordingly with the locomotive at the left-hand end, our picture will represent a train which is moving from right to left; the picture is ambiguous. The type of correct picture or diagram is a man shooting an arrow, which in the picture is flying from the left-hand part of the surface toward the right.

When the letters and the left-to-right order have been thoroughly mastered, we are ready to begin reading. In the words to be read during the first stage every letter must represent only and always one single phoneme. The great task of learning to read - one of the major intellectual feats in anyone's lift - consists in learning the very abstract equation : printed letter $=$ speech sound to be spoken. This equation is all the more difficult because it never occurs in simple form, but only in the complex shape where several letters in left-to-right order serve as the signal for several speech sounds in the corresponding soon-to-later order. If we try to simplify this by presenting single letters as signals for single speech sounds, we only make matters worse, since the isolated speech sounds are foreign to our language. This task is sufficiently difficult; we must not make it even more difficult by introducing irregular spellings before the basic habit is set up, or by asking the child to attend to the meaning of what he reads.

## 13. Differences of Pronunciation

Before we begin reading we must settle a question which troubles many teachers. How are we to pronounce our words? The sound of English speech differs greatly in different parts of the English-
speaking countries. Almost everyone is diffident about the sound of speech - especially the teacher, who is used to reflecting about such matters.

Our fast impulse is to follow some authority who will tell us what is proper. If this were possible, our problem would long ago have been settled, and all of us - or, at any rate, all educated people - would be using the same pronunciation. At various times various men have set themselves up as authorities on how English should be pronounced, but none of them has succeeded in getting people to follow his prescriptions. The man who sets himself up as an authority prescribes the style of pronounciation which he happens to use, and the great majority of people, who are used to pronouncing otherwise, object to his prescriptions and in the end ignore them. The reason for this is plain enough. English is spoken differently in different places. It would be very hard to make London teachers talk like Chicagoans. If we decided to make some one local pronunciation the standard for the whole English-speaking world, then all teachers would have to be natives of the favored place, or would have to go through a long and severe training until they acquired the favored pronunciation. Few things are harder to do than changing one's pronunciation in one's native language. There would remain the more difficult task of making the children use this pronunciation. Accordingly, the present-day phonetician who writes about the pronunciation of English does not set himself up as an authority; he tells us whose pronunciation he is describing (usually it is his own) and tries to tell what other people use the same pronunciation; even thus he lists many variant pronunciations; compare, for instance, Daniel Jones, Outline of English Phonetics (Third ed., Leipzig, 1932), p. 12. In short, there is no authority, and if there were we should probably find his prescriptions ton difficult to follow.

In the theater, our actors are trained to use the type of pronunciation that prevails among the upper classes in southern England. It would be an enormous task, and doubtless in many cases beyond our power, to teach our pupils to pronounce in this fashion. There would be no time left in which to teach reading.

So far as the general style of pronunciation is concerned, then, the teacher of reading need not worry about her own habits. Of course she should speak distinctly and in a style of pronunciation which she herself accepts as polite. Above all, she ought to avoid affectation. Affected and prissy speech is not good for the children and, since one cannot keep up a pose at all times, it leads to inconsistency.

If the teacher comes from a very distant part of the country, there may be noticeable differences between the pronunciation of the teacher and that of the pupils. Even if the teacher does not adapt her pronunciation to theirs, it is well to remember that the most we can ask of our pupils in this respect is that they speak like the educated people in their own part of the country.

For instance, if a teacher from New England comes to Chicago, she would be wrong if she tried to train her pupils to speak the so-called "broad" sound of $a$ (as in father, far) in words like laugh, grass, aunt. The attempt would consume a vast amount of time and energy, the pupils would fail to follow consistently, and outside of the classroom they would in any event lapse back into the pronunciation which they hear from everybody else.

The greatest mistake of all, however, is when a teacher, say in Chicago, who does not come from New England and does not naturally use the "broad $a$," tries to affect it in the classroom. She uses it inconsistently, often forgetting to put it into the words to which (in London or New England) it belongs, and sometimes putting it into words where it does not belong (even in London or New England) words such as lass, bass, or fancy.

The "broad $a$ " has been here mentioned as an example. There are many other differences of pronunciation between different parts of the country. They do no harm, and the teacher need not worry about them. The only kind of practice, in this matter, that will do harm is priggishness and affectation. One sometimes hears teachers use outlandish varieties of pronuonciation which no one else, and not even they when they speak plainly and naturally, would ever think of using.

Among the geographical differences in the pronunciation of Standard English there are a very few which we must consider in this book. One of these is the "broad $a$ ": a word like class, for instance, is spoken in England and in eastern New England with the vowel sound of father, far, and in must of the United States with the vowel sound of hat, lass. We give these words in separate lists; for each of these lists the teacher must decide upon the choice in accordance with the pronunciation that prevails in the part of the country where she is teaching.

The only pronunciations that are not acceptable are those which are not current among educated people in the pupils' locality. In Chicago, for instance, git for get, ketch for catch, ketch for catch, wrastle for wrestle are widespread, and so, some time back, was bile for boil, but these forms are not used by educated adult speakers. It would be a mistake to make a fuss when a pupil uses these forms, but the teacher, of course, should use the Standard English forms and should consider only these forms in the reading instruction.

The pupil who uses such forms as git or I seen it or I ain't got none is not making "mistakes in English" or talking "bad English." There is a widespread superstition which attributes the use of forms like these to "carelessness" or some other sort of depravity. The forms just cited, and others like them, are forms of substandard English or of local dialects. They are perfectly good English, but they do not belong to the dialect which we call Standard English. Since Standard English is, to all practical purposes, the only type of English that is represented in print and writing, our instruction will naturally ignore all other dialects and consider only the standard forms.

It is another matter, and in the main quite separate from reading instruction, that we want our pupils to learn to speak and write Standard English. So much may be said here, that this can be attained not by instruction in theoretical grammar, such as sentence analysis and the like, but only by a vast amount of drill in the use of the Standard English forms that differ from the pupil's substandard or local dialect. Practice of this kind should cover also the forms which are likely to be confused with the form that is foreign to the pupil. If we merely train a child to substitute saw for seen, we may find him saying I have saw it. We must train him, then, in pairs and sets or phrases:

## I saw it.

I've seen it.
I have some.
I've got some.
I have none.
I haven't any.
I haven't got any.
All this, however, is by way of digression, for the teaching of Standard English to pupils who speak some other type is a matter quite different from teaching them to read. There is only this connection, that since the tests are in Standard English, reading helps the pupil to acquire the use of this more favored form of our language.

In sum, then, the teacher should use a polite but natural type of pronunciation and should base the reading instruction upon pronunciations which are current among educated speakers in the pupils' own community. The main thing is to avoid affectation in one's own classroom language; above all, one should never make the mistake of introducing pronunciations that are foreign to the pupils' community (for instance, in the Middle and Far West, class with "broad a") or outlandish and fantastic forms that are not used anywhere in the English-speaking world (for instance, lass with "broad a," or pre-see-us instead of preshus for the word that is written precious).

## 14. First Materials

Our first material must show each letter in only one phonetic value; thus, if we have words with $g$ in the value that it has in get, got, gun, our first material must not contain words like gem, where the same letter has different value; similarly, if we have words like cat, can, cot, our first material must not contain words like cent. Our first material should contain no words with silent letters (such as knit or gnat) and none with double letters, either in the value of single sounds (as in add, bell) or in special values (as in see, too), and none with combinations of letters having a special value (as $t h$ in thin or ea in bean). The letter $x$ cannot be used, because it represents two phonemes (ks or gz), and the letter $q$ cannot be used, because it occurs only in connection with an unusual value of the letter $u$ (for $w$ ).

The best selection of value of letters to be used in the first materials for reading is the following:
VOWEL LETTERS

| $a$ as in cat | $o$ as in hot |
| :--- | :--- |
| $e$ as in pet | $u$ as in cut |
| $i$ as in pin |  |

CONSONANT LETTERS

| $b$ as in bit | n as in net |
| :--- | :---: |
| $c$ as in cat | p as in peg |
| $d$ as in dig | r as in red |
| $f$ as in fan | s as in sat |
| $g$ as in get | t as in tan |
| $h$ as in hen | $y$ as in van |
| $j$ as in jam | $w$ as in wet |
| $k$ as in keg | $y$ as in yes |
| $l$ as in let | z as in zip |
| $m$ as in man |  |

Note that this list contains one duplication: $c$ and $k$ both designate one and the same English phoneme. This will be a difficulty lacer, when the child learns to write, but it need not trouble us now, since he has merely to read the words as they are presented to him.

Our first reading material will consist of two-letter and three-letter words in which the letters have the sound values given in the above list. Since the vowel letters $a, e, i, o, u$ are the ones which,
later on, will present the greatest difficulty, we shall do best to divide this material into five groups, according to the vowel letter contained in each word. Within each of these five groups, two arrangements are possible; we can form groups by final consonants (e.g. bat, cat, fat, etc.) or by initial consonants (e.g. bad, bag, bat, etc.). We begin with the former because it is easier to watch the first letter than the last, and because rhyme is familiar to the child.

The parent or teacher points to the word

## can

in small printed letters in lesson 1 on p. 60 in this book, or shows the word either on the blackboard or on a card. The child knows the names of the letters, and is now asked to read off those names in their order: see, aye, en. The parent or teacher says, "Now we have spelled the word. Now we are going to read it. This word is can. Read it: can."

The parent or teacher nom shows another word with the same vowel and final consonant, but with a different initial, for instance fan, and goes through the same procedure.

The aim is not to make the child distinguish between the two words - that is, to get him to read each of the words correctly when it is shown by itself, and, when the two words are shown together, to say the right one when the parent or the teacher points to it, and to point to the right one when the parent or the teacher pronounces it.

We should not, at this stage ask the child to write or print the words: that comes much later.
The early reading lessons should not be very long, for they demand a severe intellectual effort. It may be well to take up only two words in the first lesson.

In the second lesson, after review, add two or three more words of the same group, say pan, ran, man.

The drill should continue until the child can read correctly any one of the words when the parent or teacher points to it. Then the words should be shown in various orders, and separately, until the child can easily read all of them. The other words of the group should be added, one by one (Dan, tan, Nan, van, ban, and finally, an). This may take quite a few lessons: it is all-important to have a firm foundation. Some of the words will be strange to the child. In fact, a familiar word, such as an, when presented alone, is likely to convey no meaning. There is no harm in telling the child that "a van is a big covered truck for moving furniture," or that "Nan is a girl's name."

If the child has learned the pattern in the list of actual words, he should be able to read nonsense syllables using the same pattern. Nonsense syllables are included with the words in the tests to accompany Lessons 1-36 (pages 101-116). The nonsense syllables are a test of the child's mastery of the phoneme. Tell the child that the nonsense syllables are parts of real words which he will find in the books that he reads. For example, the child will know han in handle and jan in January and mag in magnet or magpie. The acquisition of nonsense syllables is an important part of the task of mastering the reading process. The child will learn the patterns of the language more rapidly if you use the nonsense syllables in teaching. However, the lessons may be taught without teaching the nonsense syllables, if you so desire.

Reading is so familiar to us that we are likely to forget how difficult it is for the beginner. The child has so hard a time forming a connection between visual marks and speech sounds that he cannot attend to the meaning of what he reads. We must help him to establish this connection, and we must not bother him, for the present, with anything else. We can best help him by giving him the most suitable words to read, and these are short words in which the letters have uniform values. We
present as many as possible of these, without regard to their meanings. The child will get the meanings only when he has solved the mechanical problem of reading.

When we present a pair of words like can and fan, a child may have no notion that these words are similar in sound, or that the similar spelling indicates a similar sound. It would be a waste of time to try, as do the advocates of "phonic" methods, to explain this to him. All we do is to present such words together; the resemblance of sound and spelling will do its work without any explanation from us. Only, we must remember that this takes a great deal of time and repetition. Above all, we must not upset the habit by presenting words in which the letters have different values.

When the an group has been learned, we may go on to another final-group, such as bat, fat, hat, mat, Nat, Pat, rat, sac, lat, vat. In doing this we also present pairs like bal ban, cat can, fat fan, mat man, Nat Nan, pat pan.

This brings us into the work of the first reading lessons on page 57.


[^0]:    1. Parts of Dr. Bloomfield's essay appeared as an article entitled "Linguistics and Reading", in , The Elementary English Review, XIX, No. 4 (April 1942), 125-130, and XIX, No. 5 (May 1942). 183186.
    2. This history is very interestingly presented in H. Pedersen's Linguistic Science in the Nineteenth Century, translated by J. Spargo (Cambridge, Massachusetts, 1931).
[^1]:    3 . The best examples are to be found in G. Mallery's study, published in the $4^{\text {th }}$ and $10^{\text {th }}$ Annual Reports of the Bureau of American Ethnology, Smithsonian Intitution (Washington, D.C., 1886 and 1893).
    4 . Ibid., $4^{\text {th }}$ Annual Report (1886), p. 220.

[^2]:    5. Reprinted as The Oxford English Dictionary, 13 vols. (Oxford, England, 1933).
