SCIENCE:

A WEEKLY NEWSPAPER OF ALL THE ARTS AND SCIENCES.

PUBLISHED BY

N. D. C. HODGES,

47 LAFAYETTE PLACE, NEW YORK.

SUBSCRIPTIONS.—United States and Canada.....$3.50 a year.
Great Britain and Europe..... 4.50 a year.
Science Club-rates for the United States and Canada (in one remittance):

1 subscription	1 year		$ 3.50
2	"	1 year	6.00
3	"	1 year	8.00
4	"	1 year	10.00

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VOL. XIII. NEW YORK, MAY 24, 1889. No. 329.

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READING AS A MEANS OF TEACHING LANGUAGE TO THE DEAF.[1]

"I would have a deaf child read books in order to learn the language, instead of learning the language in order to read books."

IT delights me to observe in America a gradual change from the scholastic method of teaching language to that which has been so properly called by Mr. Scott Hutton the "natural method." But there is one point in the natural method to which I would direct your attention.

When we study the methods by which languages are naturally acquired by hearing children, we observe that comprehension of the language always precedes a child's attempt to express ideas in that language, — he understands the language before he uses it; whereas, in our attempts to apply the natural method to the deaf, we try to make the child use the language before he understands it.

I was very much struck by the remark of Mr. Job Williams, that it is practice, practice, practice, that gives a perfect command of language; that *it is the frequency of repetition of words that impresses them upon the memory*. Now, what sort of repetition do we give to the hearing child? Will any member of this conference make the experiment? It is an interesting one. Take a book intended for children's use, and read it aloud. Test the speed of your reading, and you will find that two hundred words a minute is not a rapid rate.

A stenographer would say that one hundred and fifty words a minute is above the average rate of public speaking; but this is for language in which long words are of frequent occurrence, and where a deliberateness of utterance is employed that is uncommon in talking to children. Not only do short words predominate in our conversation with children, but mothers and nurses gabble at such express speed that a stenographer would probably give up in despair the attempt to transcribe the conversation. I am convinced from experiment that the average rate of nursery gossip exceeds two hundred words a minute. However, to be well within the mark, let us assume one hundred and fifty words as the average rate, and calculate upon this supposition the number of words presented to the ears of a hearing child in the course of a day. Let us suppose that if these words were concentrated into one continuous talk, without any pause, it would amount to a speech of four hours in length, and surely this is not an excessive assumption. One hundred and fifty words a minute amounts to nine thousand words an hour, or thirty-six thousand words in four hours. This means that we shower at the ears of the hearing child no less than thirty-six thousand words a day; and, as the whole vocabulary we use in talking to children hardly exceeds three hundred words, this means a very great daily repetition.

We not only talk to a child at the rate of thirty-six thousand words a day, but we do this for three hundred and sixty-five days in the year (we do not stop on Sundays); and we do this for two years at least before we expect the child to turn round and talk to us. If, then, we attempt to apply to the deaf the natural method of learning language, what sort of repetition of words to the eye should we give the deaf child before we exact from him any great efforts at English composition? In the natural method of learning language, *comprehension always precedes expression*. But in our schools for the deaf this process is generally reversed. For example: in our sign-institutions a story is told in signs, and pupils who know little or nothing of the English language are required to go through the drudgery of writing out the story in words. Would not the converse process be more natural and profitable? Even in schools where the sign-language is not employed, action-writing is largely resorted to. For example: a teacher will take a book from a pupil, open it, pretend to read it, then close it and lay it upon the table. She then asks her class to express in English words what she has done.

While this plan furnishes an admirable exercise in composition for older pupils, it is surely out of place with pupils who cannot understandingly read an ordinary book. It reverses the process of nature, which demands that comprehension shall precede expression; that *a child must understand a language before he uses it*.

Now, we know perfectly well that if we can repeat words to the eyes of deaf children with any thing like the frequency and clearness with which we present them to the ears of the hearing, the deaf will come to master the language by the same natural process that produces comprehension in the hearing child. The great difficulty is how to do this. The speed of writing, even at a scribble, hardly exceeds thirty words a minute. The speed of the manual alphabet can be made to approximate one hundred words a minute, but very few teachers exceed an average speed of eighty words per minute. It is obvious, then, that the teacher cannot, by his own exertions, even approximate to the speed of speech.

Is there no hope, then, for the deaf child? Must the acquisition of English always be to him a long and laborious task? Must he acquire imperfectly, after years of labor, a language which is mastered by the hearing infant before he is four years of age, and which foreigners, commencing at the age when the deaf child enters school, acquire in a few months? I do not think so. I think that there is hope for the deaf child by the adoption of a plan that can be ingrafted on any system of instruction.

Though the speed at which we write is limited to about thirty words a minute, the speed at which we read is very different, especially when the words are presented in print so that the letters are clear and unambiguous. I gave an interesting novel the other

[1] An address delivered before the sixth national conference of superintendents and principals of institutions for the deaf (Gallaudet meeting), held at the Mississippi Institution, Jackson, Miss., April 14-17, 1888, by Alexander Graham Bell.

day to a friend, and noted the time when the reading began, and also the time when the book was closed. I then made a calculation of the number of words read, and I found that *more words had been read in an hour and a half than a hearing child hears in the course of a day.*

Other experiments have convinced me that the speed of silent reading, at least for those who know the language, averages from three hundred to even four hundred words a minute. I say, then, there is hope for the deaf, by putting books before them and accustoming them to form the habit of reading.

I would urge upon all superintendents and principals of schools for the deaf the importance of introducing reading as a regular school exercise, for the purpose of teaching language. I would introduce into the very youngest classes the practice of reading, *regardless of the fact that the children may not understand the meaning of the words on the printed page before them.* By this practice a repetition of words to the eye would be secured, which could not probably be obtained in any other way, and reading would co-operate with the regular instruction of the schoolroom to bring about a gradual comprehension of language.

I would place in the hands of the youngest pupils, in printed form, the stories that hearing children love to hear, and require them to read those stories, whether they understand them or not, without giving them any explanation of the meaning. Then, after their allotted task is completed, I would give them a reward.

I would show them a picture, or act the story out in natural pantomime. I do not hold, with many of my friends, that signs have not their use. I believe that signs, like pictures, are capable of being used so as actually to facilitate the acquisition of our language by the deaf. *The proper use of signs is to illustrate language, not to take its place.*

I do not know, however, if you will applaud me when I say that I do not here allude to the sign-language. There is the same distinction between pantomime and the sign-language that there is between pictures and the Egyptian hieroglyphics. Egyptian hieroglyphics consist of abbreviated conventionalized pictures, just as the sign-language consists of abbreviated conventionalized pantomime. No one will deny that the exhibition of a picture may add interest to the story that we tell a child. It illustrates the language, and it may be of invaluable assistance to him in realizing our meaning; but is that any reason why we should teach him English through Egyptian hieroglyphics?

The moment you teach one language through another, the pupil thinks in the language of communication, and acquires the other as a foreign tongue, just as the hearing children in our public schools continue to think exclusively in English, however many languages may be included in their curriculum of studies. The natural method demands that you shall teach a language *by using it for the communication of thought without translation into any other tongue.* If you want your child to learn German or French, the English language is an obstacle in the way, and retards his mastery of the foreign tongue, just as the use of the sign-language in our institutions retards the acquisition of English. If you send your child to Germany or France, or so surround him with German or French speaking people that communication is carried on exclusively in one or the other of these languages, he acquires the French or German as a native tongue.

I have no doubt that all things have a use, and even the sign-language may have a use in missionary work among the adult deaf; but I do not think it should have a place in the school, or be used in the instruction of the young, for it comes between the deaf child's mind and the English language he is striving to master.

If words are impressed upon the memory by frequency of repetition, then *the duller a pupil is, the more necessary is that repetition,* and the more harmful the sign-language.

But I am wandering from the subject. If we make a deaf child, perforce, as a regular school exercise, read, not a few paragraphs, but pages upon pages of a book, he will obtain that repetition to the eye which the teacher cannot give him by writing or by the manual alphabet. Let the pupil spend half an hour or an hour a day in reading (or spelling upon his fingers) the language that describes a fascinating tale. Do not show him a picture, do not make him a sign, do not give him any explanation of the meaning until he has finished his allotted task. Then let the story be acted out, and let pictures be freely used, till he gets the meaning, not necessarily of the individual words and phrases, but of the story as a whole. He learns thus that the printed language in the book expresses a pantomime, or a series of pictures; that it represents, indeed, a narrative that absorbs and fascinates him.

Now, when he is called upon to go through his next daily task, he knows that the language expresses a story of some kind that will interest him, and all the time he is reading or spelling his mind is being exercised. Curiosity compels him to speculate, and he wonders what sort of a pantomime will be acted out, what sort of pictures will be shown him. *He frames in his mind an hypothetical story,* which may or may not be right, but the pantomime or pictures will ultimately correct it. *He is deriving ideas of some sort directly from the printed words.* This is the sort of exercise that the child needs. This is the kind of mental operation that goes on in the mind of the hearing child when he sits on his father's knee, and listens to the story of adventure or to the fairy-tale. In both cases the comprehension of the language is imperfect; in both cases errors are corrected and interest aroused by the exhibition of pictures, or by the use of dramatic gestures and natural pantomime.

I therefore strongly recommend the introduction of reading as a school exercise, — the introduction of interesting stories expressed in ordinary language, idiomatic phrases and all, not language stilted in expression, containing sentences exclusively arranged upon simple grammatical models. If the pupil is to make progress in his knowledge of ordinary language, the language must be above him, and not degraded to an unnatural level. Teachers may say, "Why use idiomatic phrases that cannot possibly be explained to the deaf child?" But he never can come to understand them until he has seen them, any more than the hearing child can understand them until he has heard them. The hearing child learns to understand by hearing, and the deaf child will come to know by seeing. Frequency of repetition will impress the idiomatic phrases on his mind, and much reading will bring about this frequent repetition in ever-varying contexts.

I may allude here to an experiment that I made upon myself, which has an important bearing on this whole subject. I obtained a work upon the education of the deaf, written in the Spanish language (of which language I knew nothing). I determined to ascertain how far I would come to understand the language by forcing myself to read the book. I read very carefully thirty or forty pages, and could make but little of it. The Latin roots helped a little, and I understood a few technical words here and there, but that was all. I refused at first the aid of a dictionary, for a dictionary stops the current of thought. I read thirty or forty pages, and then paused.

Now, a number of words had occurred so frequently that I remembered them, though I knew not their meaning. These words I sought in the dictionary, and then I resumed my reading. I found that these words formed the key to the next thirty or forty pages, and that the meaning of many expressions that would otherwise have been obscure became manifest. New words also explained themselves by the context.

Every now and then, after reading a few pages, I resorted to the dictionary, and sought the meaning of those unknown words that I could remember without looking at the book. I then turned back to the beginning and read the whole a second time, and I was delighted to find that a very great portion of the meaning of that book revealed itself to me. Indeed, I felt convinced, that, if I wanted to comprehend the Spanish language, all I had to do was to read, and read, and read, and I should come to understand it.

The application to the deaf is obvious. The methodical instruction in the schoolroom, and the efforts of the teacher, take the place of the dictionary to the deaf child, and reading, reading, reading, with a desire to understand, will give that frequency of repetition to the eye that is essential to the mastery of language. To express the theory in a single sentence, *I would have a deaf child read books in order to learn the language, instead of learning the language in order to read books.*

Now, the books that are best fitted for this end are not those which are most commonly found in school libraries intended for the use of deaf children. We may be guided in our choice by the age of the child. We should place in the hands of the child such books as are of absorbing interest to hearing children of his age. If we wish the child to learn language, quantity of reading is more important than quality. For little children, such stories as "Jack the Giant-Killer," "The Three Bears," "Cinderella," and all the host of fairy-stories that so fascinated us when we were children, will be the best. For boys of twelve and thirteen I am afraid that the so-called "blood and thunder" novels would teach more language than "Stanley's Travels in Central Africa," or the best text-books of history. It is not necessary, however, to place in the hands of deaf children books of doubtful character, in order to give them reading of absorbing interest, while the press of this country continues to furnish such fascinating, entertaining, and at the same time elevating and improving literature for the young as has been prepared for them by such writers as Louisa Alcott, Elijah Kellogg, Margaret Sangster, and the scores of other authors of juvenile books of our time. A plentiful supply of interesting tales should be provided, sufficiently short to be read through at a single sitting, and of a character that could be illustrated by pictures and natural pantomime. Of course, suitable selection must be made of subjects; but I cannot too strongly impress upon you my conviction, that, *for language-teaching, mere quantity of reading is more important than quality.* For advanced pupils, the society novels and plays that are usually banished from the libraries of our institutions are what are wanted, especially those society novels that are written in conversational style, and abound in questions and answers. Ordinary books of history and travel are too often written in what may be called "book language," and not in the language of the people. But in novels and plays will be found the language of conversation, and these also are the books that will stimulate the pupil to read.

As your pupils become familiar with the printed page, they will take in words by the eye with greater and greater rapidity, until ultimately a speed of reading will be obtained of from three hundred to four hundred words a minute. Think what this means if the child reads for only an hour a day during the whole period of his school course! Think, too, of what value the habit of persistent reading will be to your pupils in adult life!

I believe, that, in the acquisition of language by the deaf, reading will perform the function that hearing does for the ordinary child. I do not think that any more important habit can be formed by the pupil than the habit of reading; for, after all, the utmost that you can do for his education in his school life is to introduce him to the wider literature of the world.

EXPLORATIONS OF CAPT. BINGER.

MORE than two years have passed since a marine officer set sail from Bordeaux (Feb. 20, 1887), destined to become renowned as a great explorer. After having for some time conscientiously studied the customs and the language of the people living about the Senegal, Capt. Binger returned to France, harboring the plan which he is about to execute

His numerous studies and careful researches culminated in the following plan: to fill the large blank space which on our charts is situated in the bend of the Niger; and to connect the investigations and surveys made on the right bank of the river by French officers, and previously by the French explorer René Caillé, with those of Barth and with the surveys of the lower course of the Niger.

His first objective point was to be the city of Kong, the situation of which is approximately given on all our maps. According to one authority, it was said to be a great market-place, a place of meeting for caravans, and a centre of trade; while, according to other authorities, its existence was a matter of doubt, as this name of "Kong" ("mountain") was said to denote merely the watershed between the Atlantic Ocean and the Gulf of Guinea. The plan once conceived, Capt. Binger, on account of his indomitable energy and his perfect health, was the right man to carry it through, in the face of serious dangers. It required a march into unknown regions. He was to be the first white man seen by the natives of that region; and his knowledge of the native tongue, spoken on the banks of the Senegal and the upper Niger, was of no use to him when once he had entered the unknown territory, as the language in the region to be traversed differs from that spoken throughout the French possessions.

On the 15th of May, Capt. Binger passed the post at Kayes on his way to Bammako, whence he was to start. From this point, in the beginning of June, he addressed a letter to the *almamy* ("chief") Samory, — the same who, by the treaty of March 23, 1887, had placed his states under French protection, — informing him of his intention to march into his country. The *almamy* pleaded that the war with King Tiébe, his powerful neighbor to the east, and the unfortunate condition of his country, would not permit him to receive the traveller, and refused to receive him. After a short time, however, he changed his mind; and, hoping to turn the chances of war in his favor, he wrote to Col. Gallieni, governor of Senegambia, asking him to send a re-enforcement of thirty soldiers from the colony. This request decided Capt. Binger to march on. He only wanted a pretext for doing so, and hoped he would be able to study the position of King Samory, and report to the commander of the French Sudan.

In the war mentioned above, Capt. Binger had tried to act as mediator. He settled upon the 30th of September as the date of his departure, but Samory interfered. First, his son, Karamoko, warned Capt. Binger that the roads leading to Kong and Tegrera were not safe, that it would be preferable to wait, and adduced many other reasons to induce him to give up his plans.

When Capt. Binger insisted upon his departure, Samory declared that he would not let him depart until he had taken Sikasso and several other cities in the neighborhood of Kong. This answer did not satisfy Capt. Binger; and therefore he demanded a final answer from Samory as to whether or not he would give him permission to traverse his country; but again no definite answer, and pretexts without end were the only result. Tired of these performances, Capt. Binger decided to move on as soon as practicable, and run the risk of Samory's hostility; but his energy and his firmness had been effective. He soon after received a confidential visit from the king and his son, begging him not to forget them, and to bring them some cartridges on his return.

The return to Benokubugula was effected by way of Saniena and Komina. Here, again, Capt. Binger found traces of the ravages of war. Komina, which some years before consisted of seventeen villages, — a much-frequented centre of almost four thousand inhabitants, — was nothing but a ruin. A few lemon-trees bore fruit as an emblem of former prosperity. "Since the *almamy* has come here," said a native to the captain, "the land is lost; the soil was good; one mule cost *ba wuoro* ('fifteen francs'); now we can barely find enough to eat."

On the 7th of October, Capt. Binger re-entered Benokubugula, tired out, but still in good spirits. With the exception of the information gained as to the position of the *almamy*, his journey had been void of results.

After resting for several days, Capt. Binger resumed his march on the 16th of October, but not without having to overcome the same obstacles he had met with at Wolosebugu and Sikasso, — that of being unnecessarily detained. Near Tengrera, threatened by the inhabitants with the loss of his head if he proceeded farther, he was deserted by his escort, and at Furu — the boundary of the lands of Samory — he had to pay heavily for the permission to cross. At last he entered the dominions of Tiébe, accompanied by a guide and two men from Niele, captives of Pegue, chief of this part of Follona.

The captain first crossed Pomporo, where he was not disturbed, although he had not been officially received by the dignitaries of the village. At Dionmantene several men joined his small caravan.

After he had arrived within five miles of Niele, he was taken sick with bilious-fever, and during this time was well treated by Pegue, who daily sent him eggs, chicken, and honey.

During his rapid convalescence he tried his best to persuade Pegue to admit him to his capital, but in vain. Pegue refused, as he was influenced by his *kenielala* ("magicians"), who associated