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THE PROGRESS MADE IN TEACHING DEAF CHILDREN TO READ LIPS AND TALK, IN THE UNITED STATES AND CANADA.¹

BY ALEXANDER GRAHAM BELL.

THE total number of teachers of the deaf employed in the United States in 1890 was 641, and in 1891, 686. This is an increase of 45. When we come to analyze the details we find that this is an increase exclusively of articulation teachers. This is shown by the following facts. In 1890, there were 213 articulation teachers employed, whereas, in 1891, there were 260,—an increase of 47 articulation teachers. The first statistics upon this subject were collected by the Annals in 1886. In that year we find articulation teachers constituted 32.8 per cent of the hearing teachers in our schools for the deaf. In 1887 they constituted 40.5 per cent; in 1888, 44 per cent; in 1889, 45.7 per cent; in 1890, 45.2 per cent; in 1891, the latest returns, 50 per cent. Indeed, they constituted one more than 50 per cent. There were 260 articulation teachers to 259 hearing teachers who were not engaged in articulation work.

In regard to the proportion of deaf pupils taught speech, the increase during the past year has been very marked. In 1890, there were 3,682 deaf children in the United States taught speech; in 1891, 4,245, an increase of 563. In 1890, 41.3 per cent of our pupils were taught speech; in 1891, 46 per cent. I am sure that this increase is due very greatly to the stimulus of the first summer meeting of the American Association to Promote the Teaching of Speech to the Deaf.

Of course, the statistics in the Annals include the whole of our pupils, old as well as young, and it has occurred to me, therefore, that they may not give us a true indication of the extent to which the California resolution is being carried out in the country at large; and that a better indication would be obtained by statistics concerning younger pupils alone. I therefore sent out a circular letter of inquiry to

¹ Address delivered at the conference of the superintendents and principals of the schools for the deaf of North America, held at Colorado Springs, Aug. 8-11.

the superintendents and principals of American schools for the deaf, requesting:—

1. The total number of new pupils admitted during the school year just closed.

2. The number of new pupils taught speech; and

3. The number of these taught by speech.

Replies have been received from schools containing 7,987 pupils, or 80 per cent of the whole number under instruction in the United States and Canada.

The following table shows the results of the inquiry:—

Speech-Teaching in American Schools for the Deaf, 1891.

Schools for the Deaf.	Number of Pupils in Year 1891 [Annals of January, 1891].			New Pupils Admitted in School Year Ending June, 1892 [Replies to Cir- cular of A. G. Bell].					
	Total pupils.	Total taught speech.	Percentage taught speech.	Total new pupils.	Total taught speech.	Total taught by speech.	Percentage.		
							Taught speech.	Taught by speech.	
United States.	A...	5,614	2,960	53	836	580	363	69	43
	B...	1,619	759	47	266	189		71	
	C...	1,999	536	27					
Total.....	9,232	4,255	46	1,102	769		70		
Canada.	A...	445	92	21	59	20	5	35	8
	B...	309	132	43	63	41		65	
	C...	39	5	13					
Total.....	793	229	29	122	61		50		

A. Complete returns were received from these schools.

B. The returns received from these schools did not state definitely the number of new pupils taught by speech. The Canadian schools marked *B* refer to the two Roman Catholic schools in Montreal. They return 126 pupils, or 41 per cent of the whole, as taught by speech; but do not state how many of the new pupils were so taught.

C. These schools did not reply to the circular letter of inquiry.

It is encouraging to note that while 46 per cent of the whole number in our schools last year were taught articulation, 70 per cent of the younger pupils were afforded an opportunity of learning to speak. The statistics published in the Annals are somewhat defective because, while they give us the total number of pupils taught speech, they do not give us the number taught by speech; so that we have no statistics by which we can measure the progress of the oral method of teaching in America.

Professor Joseph C. Gordon of the National Deaf-Mute College, in some editorial remarks prefacing a volume entitled "The Education of the Deaf," about to be issued by the Volta Bureau, says: "The returns of pupils taught by speech are incomplete. The number reported for 1891 is 963, or 10.4 per cent of the school population." The above table indicates that the percentage, in the case of the younger pupils, must be very much larger. Out of 836 new pupils admitted during the past school year, 336, or 43 per cent, were taught by speech.

This percentage, however, is probably excessive, because the table shows that those schools which have done the most

work in articulation teaching have been the most ready to respond to inquiries relating to the subject. We cannot, therefore, assume that the percentage holds for the schools that have not replied to my circular letter.

Still, even if we assume that these 363 deaf children were all who were taught by the oral method, the percentage must be very much higher than that given by Professor Gordon. This will be obvious from the following considerations:—

The schools containing these cases had a total attendance of 5,614 pupils, of whom 836, or 15 per cent, were new pupils admitted during the past school year.

If this proportion held good for the whole country, then there must have been a total of 1,385 new pupils—or 15 per cent of 9,232—admitted during the year just closed.

Now 363 of these, at least,—or 26 per cent,—we know were taught by speech. Hence, for the younger pupils, the true proportion taught by speech lies somewhere between 26 and 43 per cent of the whole. The lowest estimate very much exceeds the figures of Professor Gordon.

We have no means of ascertaining whether the proportion of our pupils taught by speech is increasing or diminishing; and I think it would be well to direct the attention of the editor of the *Annals* to the importance of collecting and publishing statistics upon this subject.

I have glanced over the most recent reports of American schools for the deaf, and there are a few points contained in them to which I shall direct your attention.

In the twelfth biennial report of the American Asylum at Hartford, the principal, Dr. Job Williams, gives his views upon what constitutes success in articulation work. He says:—

“We hold that direct and earnest effort should be made, by expert teachers of those branches, to teach speech and speech-reading to every pupil, and in no case should that effort be abandoned, until those teachers are convinced that the pupil will never acquire enough of speech to be of any practical use. In some very unpromising cases the possibility of acquiring speech is not given up for two or three years. Here let me say that the criterion of success in speech should not be perfect naturalness of tone and inflection. It would be unreasonable to expect that, where the sense of hearing is wanting. Intelligibility is the prime requisite of good speech. Tone and inflection are secondary considerations. Any pupil who has mastered speech and lip-reading so far as to be able to carry on conversation in regard to the ordinary affairs of life in speech so plain as to be readily understood by the members of his own family, even though others fail to understand him, should be counted as a successful articulator and lip-reader. It is worth while to continue the instruction in these branches in many cases where the degree of success falls considerably short of the ability to carry on an extended conversation, provided that what of speech is acquired is easily understood. We must recognize the fact that intelligible speech is the readiest and most acceptable means of communication with people in general, but it must be intelligible. It is worth while for a child to gain even a limited amount of speech and lip-reading (the latter is as important as the former) in all cases where it can be done without serious sacrifice in mental development and acquisition of language.”

We all must agree with Mr. Williams in these remarks. We should, of course, aim to have our pupils speak so clearly and distinctly that anyone can understand them; but I am sure Mr. Williams is right in saying that a much lower degree of proficiency might constitute a pupil a successful

articulator and speech-reader. Mr. Williams rightly claims that oral instruction is successful if the speech of pupils is intelligible to their friends in their own homes, and among their own people, even though others have difficulty in understanding what they say. It is a very difficult thing for a teacher, and especially for an articulation teacher, to realize this. I have been myself a teacher of articulation, and I know how they feel. Their ears are sensitive to mispronunciations, as mine were. It is difficult for them to realize that voices, which to them may be disagreeable in tone, may be very sweet and pleasant to those at home. It is difficult for them to realize that imperfect speech may be better than none at all; and that speech so defective as to be unintelligible to strangers, may be of the greatest value to the pupils in their own homes, and among their own people, as a means of communication. This fact has been specially impressed upon my attention by the report of the Mississippi Institution, which, in many respects, is a very remarkable document. That institution has had a class of twelve pupils taught altogether by speech and speech-reading. While all of them have made great progress in speech-reading, some have gained but little power of speech.

Mr. Dobyns, the principal, says:—

“While I have been more than satisfied that the institution was justifiable in the small outlay in this department of instruction, yet, for fear my zeal to keep pace with the times may have gotten the better of my judgment, I submitted the following questions to the parents of the pupils in this class, knowing that they desired the very best thing for their children.”

I will not take up your time by reading the questions and replies, but will merely say that the answers demonstrate, that speech, which may be thought very little of by the sensitive ear of the teacher, is considered a blessing at home. None of these parents desire their children to be removed from the oral department of the school; but, on the contrary, they all earnestly request that their children be continued in this department. Where there is any difficulty in deciding upon the value and success of the articulation taught to our pupils, with whom should the decision rest? Surely with those who are nearest and dearest to our pupils,—with those who have their interest most at heart. Mr. Dobyns, I am sure, is right in referring the question to the parents and friends at home.

In this report, Mr. Dobyns incidentally remarks that now, whenever a new pupil enters the institution, the request comes from the parents: “Please see if you can’t teach my child to speak.” He has, therefore, asked from the Mississippi Legislature an increase of appropriation to enable him to employ another articulation teacher; and I am sure we all hope he may get it.

There is another point in the report of the Mississippi Institution to which I would direct your attention. Mr. Dobyns has collected and published statistics concerning the earnings of former pupils, and he goes to his State Legislature with the proof that the graduates of his school, so far from being dependent upon the public for support, are actually wealth producers, earning annually a larger amount than the State appropriates for the support of the school. He proves that it is not a matter of charity to educate the deaf; and demonstrates that the money appropriated for this purpose is in the nature of an investment, yielding profitable returns to the State.

I would urge all schools for the deaf to carry out this plan of Mr. Dobyns, and collect statistics concerning the earnings

of former pupils. I would suggest that these statistics should be so tabulated as to distinguish the earnings of the pupils who could articulate and read speech from the mouth, from those who could not. I have no doubt that pupils who speak, have an advantage in life over those who do not; and that statistics will demonstrate that their average earnings exceed the average earnings of those who are unable to articulate. If this should turn out to be the case, what an argument it would be to present to legislatures in favor of appropriations for articulation teaching?

I venture to predict, we shall find that our former pupils who speak, even though they may be unable to read speech, earn more per annum than those who are forced to resort exclusively to manual means of communication; and those of them who can read speech, as well as speak, are still better off in life.

Mr. Davidson of the Pennsylvania Institution has suggested another valuable line of inquiry. From a comparison of numerous letters in his possession, he makes the assertion that orally-taught pupils improve in their knowledge and use of language after leaving school. I would suggest the importance of preserving uncorrected letters of your pupils during the whole period of their school life, and of keeping up correspondence with them after they leave school. A comparison of letters written by the same pupil at different periods of time would be invaluable as a means of determining his progress; and the correspondence in adult life might be utilized, for the purpose of collecting statistics concerning the earnings and general success in life of our pupils.

REMARKS ON NORTH AMERICAN LICHENOLOGY.— PRELIMINARY.

BY W. W. CALKINS.

In introducing the above title for my subject, I owe to myself and to the promoters and patrons of a journal embracing the scope, influence, and popularity of *Science* an explanation of my purpose in bringing into public notice that department of botany which it appears to me as an humble worker in this field has heretofore received too little attention from botanists and institutions of learning in North America. My object is, then, to contribute in some measure towards the upbuilding of a more general interest among students in what seems to have been considered an uninteresting and obscure field of research.

In other departments there are workers by the hundreds. In American lichenology only one name and one life stands out pre-eminent as the founder, promoter, and able exponent of the science, Edward Tuckerman. He has gone to his rest, but his works remain. As a systematist, he brought order out of chaos. He formulated and developed a classification more nearly approaching Nature in her arrangements and divisions of the Lichens than any previous authors,—unless it be Elias Fries and Dr. Nylander,—both illustrious names.

This system, thus established by Tuckerman, is the basis of the science in this country, and his published writings the sole text-book and guide of the American student. Tuckerman's style of writing is certainly unique,—*sui generis*,—but when once comprehended, impressive and convincing, as well as clear. I confess to long vigils before I could understand him. Having had the benefit of collecting and comparing the greater part of the species described by him in their native habitats, my admiration for his profound knowledge, apprehension, and far-seeing into the secrets of

nature, as evinced by what he calls "habit," increases with each review of his works.

This was made plainer to me from recent investigations in Tennessee, Alabama, and Georgia, by the fortunate finding of several rare saxicolous species which Tuckerman described, and which had not been seen since Judge T. M. Peters discovered and sent them to him. There were doubts in my mind which were now dissipated by an actual review *in situ* day after day, as I wandered over the calcareous rocks of the mountain region where found. I will now only specify one species, *Pannaria stenophylla*, which grows intermixed and cunningly hidden with another but more common form, *Pannaria Petersii*. The thallus and reddish-brown fruit are scarcely distinguishable at first. I am indebted to the keen discrimination of my friend S. Higginson for the complete settlement of this rare species.

Since Tuckerman's death no one has appeared to fill his place; the nearest approach being Henry Willey, who, however, has retired from active work, but not without leaving two publications of great value. In a recent letter to me from Dr. Nylander, he laments these losses to American science. But what has been can be. We must wait for some one of pre-eminent ability and adaptation to grow into the vacancy. Meantime, I doubt if anyone in the United States is making a special study of Lichens. Two or three have considerable knowledge of them, however. This is to be regretted. An inviting field, vast and rich, is open and offers great rewards. Who would exchange a fame like Tuckerman's for any amount of worldly wealth! I apprehend that he himself did not realize the extent or value of his own labors to which his entire life was devoted; neither the gratitude of his followers and successors, who without the works he left would be without a guide, and like an army without a general. I am sure that my co-laborers will agree with me in this. We may then be considered as entering upon a new era in the prospects and progress of the study in this country, which is coincident with the tremendous strides shown in phænogamic botany and in the increasing number of students in cryptogamia—as the fungi. Having myself for many years worked in those fields and witnessed the growth and increasing number of students, I have watched for corresponding interest as to Lichens. From the evidence received by me, the future is promising.

While specialists in Europe have explored every corner, and the great Nylander has given a lifetime of labor to this subject, the species of only detached portions of America have been investigated. The extreme south of our coasts and the far west are almost a *terra incognita*. The sub-tropical portions are prolific in new species and rare forms. It was my fortune to find and submit a large number of these to Willey and Nylander, yet I merely skimmed over the surface. The southern Appalachian Mountain region is almost as interesting in its rock forms, which are the most difficult perhaps to study (*vide* Nylander on my new Tennessee species). Their interest is, however, exceedingly great. While it is true that hundreds of new forms remain to be discovered, and are a great incentive to the explorer, yet it is clear that the resolution of those now known will afford active and valuable work to whoever undertakes it. It being admitted that the study of Lichens is difficult, still with such aids as I have mentioned, and ready access to the increasing herbariums and literature of the subject, the obstacles and objections disappear rapidly,—it being supposed that one pursues the subject *con amore*.

147 California Ave., Chicago, Ill.