Talking deaf mutes: the special role of women in the methodological conflict regarding the deaf, 1867-1900

Margaret Winzer
Ontario Institute for Studies in Education

Within the fabric of the history of education, the education of the deaf and dumb constitutes an important thread, widely disproportionate to the population it served. Early nineteenth century reformers, involving themselves in diverse aspects of delinquency, deviance and dependence, gave prompt attention to the plight of this handicapped group, so that deaf children were the first to have special schools provided for their needs. Indeed, they were ceded free and compulsory education in many parts of Europe and North America before it was legislated for all youth.¹

A major theme in the education of the deaf lies in the controversy concerning the most appropriate method of communicating with these inarticulate, though otherwise normal, beings. Because deafness impairs effective language development all pedagogy devolves on this vital component. The blurred outline of the debate was brought sharply into focus in the mid-eighteenth century with major pedagogical advances in Europe. Influenced by Enlightenment philosophies of language, the Abbé de l’Épée in France perfected the manual or silent method, which focused on the supremacy of sign language and manual alphabets, with minor emphasis on the acquisition of mechanical speech. Simultaneously there developed in Germany an oral mode which eschewed manual forms totally, adopting as its central tenet the superiority of speech and lip reading, supplemented with writing.² From that time on educators assumed conflicting stances in regard to methodology.

In the fifty years following the establishment in 1817 of the first North American institution for the deaf and dumb in Hartford, Massachusetts, the manual methods of l’Épée were utilized exclusively. The opposing oral mode was not introduced until 1867, with the founding of the Clarke Institution for Deaf Children at Northampton, Massachusetts. From this point onward, educators were forced to confront their ideas critically, to rationalize the advantages of their preferred system of communication. Not surprisingly, a period of divisive argument ensued. Pursuing different avenues towards the general goal of the intellectual and social development of the deaf
child, teachers divided themselves into opposing camps of oralists and manualists. The bitterness of the debate allowed no neutral position to exist, nor a non-partisan stance to be assumed.

Pedagogical issues were pertinent to wider social values, implying differing viewpoints held by the oralists and the manualists relating to the role of the deaf person in society. Manualists perceived deafness as a human difference, best accommodated through a special language; contrastingly, oralists saw it as a handicap to be overcome, speech and lip reading allowing access to normal society. Hence, the controversy precipitated a debate not only on the techniques, but also on the purposes and content of education. As oral advocates challenged the traditional diligent adherence to the manual modes of communication, the argument spilled into diverse areas encompassing curriculum, teacher training, teacher associations, the freedom of those afflicted with deafness to marry and propagate and, most importantly, the sex of the teachers. Gender played a major role in the dialectic of manual and oral, the debate on deaf communication dividing temporarily into opposing factors based on lines of sex.

It was the reforming instinct, bolstered by religious impulse and spurred by parental solicitude, that initiated the establishment of the first formal educational institution for the deaf in North America in 1817. Thomas Hopkins Gallaudet, trained for the work in France, imported the manual system to the American Asylum for the Education and Instruction of Deaf and Dumb Persons. Later manual institutions, modelled on the American Asylum, were established by reformers who saw the school as the appropriate vehicle to deal with present and potential social problems. These institutions were staffed and supervised by a tightly-knit, male elite, predominantly members of the clergy, who elicited an entrenched conservatism in regard to methodology and promoted moral development as the essential tenet of instruction. Gallaudet, himself, exemplified the evangelical ideal of a moral and spiritual regeneration for the handicapped, bringing to his endeavours a missionary posture and focusing on the inculcation of religious values.

The early educators of the deaf included no women. "As all privileged bodies are apt to make one mistake," wrote Fred De Land, an astute commentator in the field, so did the manualists: they "omitted women from their system." Yet Gallaudet, involved in a diversity of educational ventures, was an early advocate of the education of and by women, visualizing teaching as a profession open to females. Adamantly attesting that "the present modes of instructing youth are susceptible to great improvement," Gallaudet "was among the most earnest to call attention in conversation, through the press, and in educational meetings, to the whole subject of female education, and especially to the more extensive employment of women as teachers." Gallaudet's advocacy on special institutions for the professional training of young women for the office of teaching was widely influential and, interwoven with his pre- eminent position in deaf education, eased the passage of women into that special form of teaching later in the century.

Nevertheless, women were not permitted to teach in the institutions for the deaf until 1852, the year following Gallaudet's death. In the first half of the century teaching was not a woman's profession. Previous to the 1860's, therefore, educational literature referred to the teacher almost exclusively in the masculine
gender. During that decade the appellation changed, indicative of the number of women flowing into the profession. Women teachers were thought to be generally kinder and more gentle than men, more efficient for the work and, for the first ten or twelve years of a child’s life, female teachers were most preferable.6

Apart from the educational capacities of women, which Edward Seguin, a leading educational innovator, noted were “recognized to be far above those of men,”7 there were sound economic and demographic reasons that opened the profession of teaching to women. A rapidly developing population created the need for more teachers at a time when a swiftly expanding economy induced the available men to enter industrial and commercial enterprises. The tax-supported common schools, and the burgeoning institutions for the deaf, the blind and the feeble-minded, opened large numbers of positions.

However, the major reason for hiring women lay in “the comparative cheapness of the terms on which they may be employed.” Lower salaries for women were justified on the basis that females did not have families to support; women were not expected to have job-related aspirations, but were to look to eventual marriage; and the increased costs concomitant with the expanding school systems simply determined the lower rates for women. Too, the limited purposes to be achieved in the school led to ill pay: while the school may have been a necessary institution it was not one that required extensive skills or great training on the part of the teacher.8

Sex-based salary discrimination similarly occurred in schools for the deaf, although deaf-mute teachers were also paid less than their hearing counterparts. The first female teachers of the deaf were hired by the New York Institution for the Deaf and Dumb in 1852 “for
various reasons, of which the necessity of economy was not the least," and their numbers in the institutions increased rapidly after this "for the sole reason that their services could be had at low rates." (original italics) "The appropriations now made for the institutions of the deaf and dumb," prompted Henry Barnard in 1852, "could be ... more economically" and "more wisely applied, by the employment of well educated and properly trained female teachers." 

By 1852 there were fourteen schools for the deaf in North America, only two of them employing a total of three women. By 1868 there were 51 women teachers, or 34 percent, and in 1895 women constituted 68 percent of the teachers. The rapid increases were explicitly related to the advent of the oral modes of instruction in the North American institutions. For while economic factors determined the entry of women into all areas of the teaching profession in the middle decades of the nineteenth century, a complex of rationales deployed women to the oral schools. On the tiny stage of deaf education the numbers were not large: in 1891 the total number of teachers employed in North American schools for the deaf was 686. Projecting from this and from figures published annually in the American Annals of the Deaf (and Dumb), the women involved in the endeavour in the period 1867 to 1900 numbered somewhat less than 600.

Contrasting to their small numbers women teachers played a significant role in shaping the lives of the deaf, both from their direct influence as organizers in the campaign for the adoption of the oral system, and by their indirect co-operation in the process. Within the institutional network and in the public sphere women ventured to dispute the traditional pedagogical practices of experienced male educators, the ferment on communication modes revealing most clearly the differing aspirations and anxieties concerning the pupils. It was this articulate and dedicated group of women teachers who finally convinced legislators, parents and educators of the rightness of the oral modes. So pervasive was the feminine influence that by the opening decades of the twentieth century the great majority of deaf children in North America were educated by speech and lip reading alone. Sign language was relegated to the status of a ghetto slang, its use forbidden in the schools.

Manual methods of communication dominated North American education of the deaf for fifty years. In 1844 Horace Mann and Samuel Gridley Howe toured European schools for the deaf, Mann's contentious Seventh Annual Report concluding that "institutions for the Deaf and Dumb in Prussia, Saxony and Holland are decidedly superior to any in this country." Mann and Howe thereafter diligently stirred up educational and public opposition to the manual methods, speaking consistently in support of the superior advantages gained from oralism. It was the voice of Mann, with his report of the achievements of European institutions tucked under his arm; of Gardiner Greene Hubbard, dismayed with the mediocre intellectual products of North American schools for the deaf; and Howe, peddling the notion that oralism held the key to extended opportunities for the deaf, that inspired educational reformers to invest financially and socially in the elaboration of a novel institution for deaf children.

Oralists were concerned at the narrow social organizations that manualism allowed the deaf person to enter and, not surprisingly, the solution they devised devolved not only on alternate communication methodology, but on the creation of a distinct institutional setting, patterned on middle class family life. In 1866 Harriet Rogers, with the guidance and financial support of Hubbard and Howe, founded
the first regularly organized oral school for the deaf in North America, an establishment which soon blossomed into the Clarke Institution for Deaf Children.

The Clarke Institution in Northampton, Massachusetts, was founded not only to advance the philosophy of oralism but in response to the demands of parents who held more than an intellectual stake in the ideology of educational reform. These parents were naturally concerned that their deaf children acquire the graces and be able to speak and understand the speech of others in normal society, it being equally undesirable that they be able to converse only with the other deaf. Palpably class conscious, Gardiner Greene Hubbard, addressing the Massachusetts Special Joint Committee on Oral Schools in 1867, commented that “if a child were of poor parents, I should not attempt articulation,” suggesting that indigent pupils be sent to the American Asylum at Hartford. 13

Because of the oral methodology she adopted, and in response to the young age of her pupils, Harriet Rogers chose to employ only women teachers at the Clarke Institution, a policy wholly or partly adopted by other oral facilities. Clarke became female-oriented and matriarchal in tone, appropriately analogous to middle class family life. Institutional aspects were de-emphasized and replaced by modes of familial ambience, the whole conceived as a model society where “the domestic regime resembled that of a well-regulated, large private family.” Contrastingly, the manual schools were masculine, strictly regimented and institutionalized where, as late as 1936, pupils went around like prisoners in striped clothes. 14

Frankly militant in the quest of educational goals, oral teachers decried the objectives of manualism, being contemptuous of the restrictive social intercourse and intellectual development allowed by that mode. Women identified with their pupils, and perceived their ultimate development in terms at variance with those expressed by male, manual educators. The militancy that other women of the period were directing to the staples of nineteenth century reform—ignorance, vice, crime, poverty, drunkenness and lunacy, women involved with the deaf turned towards their pupils. The endeavour was to raise the deaf from their historically low positions in the social hierarchy to those where their hitherto dormant intellectual capacities would be recognized and appreciated. The attainment and utilization of oral skills allowed the deaf person free access to society, an entry precluded by the nature of the manual system which compelled the deaf to associate almost exclusively with the deaf.

There is little explicit, but some implicit, evidence to support the claim that women in the oral schools identified, to a greater or lesser degree, with the historically subordinate status of their deaf charges. The inferential leap that perceives one sub-group that had historically suffered disenfranchisement and discrimination as identifying with another under like strictures is not great. These women were daily exposed to a male ethic that allowed success, status and leadership in all areas to men, while they were denied the right to open competition by laws and mores that relegated women to an inferior social position. Without the dedication of these women the deaf, according to contemporary commentators, “would rise no higher than orangutangs,” having “no more opportunity of cultivating their intellect and reasoning faculties than did the savages of Patagonia, or the North American Indians.” 15

Women teachers believed that status could be attained and retained through the
educational successes of their students. The sparse biographical data offers some support for this contention in that it concentrates heavily on detailing the successes of graduates in professional and social pursuits. Caroline Yale, principal of Clarke School for the Deaf, devotes long chapters to the attainments of her former pupils in Years of Building, the only woman’s autobiography of the period existing, while largely ignoring her own personal aspirations and the rationale for 52 years commitment to the deaf.\textsuperscript{16}

The deployment of women in the oral schools arose partly from a perception of sex-based expertise in the teaching of speech. Deaf children floundered without their “natural teachers—who are female, of course, particularly as teachers of speech,” noted Edward Seguin. A complex of factors contributed to this view. In the eighteenth century the Abbé de l’Épée had employed women exclusively as teachers of speech to deaf children, himself finding the process “tedious and oppressive,” engendering an “intolerable wearisomeness for both pupil and instructor.” Seeing the work as a merely mechanical part of tuition, the Abbé assigned it to girls who, he wrote, “after a few preparatory instructions” became “successful preceptresses of Deaf and Dumb females.”\textsuperscript{17} Anticipating nineteenth century stereotyping that saw “the maternal instinct, the untiring patience,” as qualifying women peculiarly for the instruction of children, the Abbé commented that in teaching the oral modes “patience is the great desideratum; learning is superfluous.”\textsuperscript{18} Women possessed a “fondness and tact in communicating knowledge, especially by means of oral methods,” and were “under all combinations, the best teachers, particularly of speech.” As one wag noted in 1900: “their lips are more easily read, —they have more practice, perhaps, and women do not wear beards.”\textsuperscript{19}

Both Alexander Graham Bell, the doyen of deaf education, and Gardiner Greene Hubbard, the inspiration behind the Clarke Institution, consistently advocated the employment of women as teachers of the deaf.\textsuperscript{20}

In 1857 Edward Miner Gallaudet accepted the superintendency of the newly established Columbia Institution for the Deaf in Washington, D.C., which became the National Deaf Mute College in 1864 and is today known as Gallaudet College. Unlike his father, Edward did not profess a strong commitment to the cause of female education and the professionalization of women teachers. Rather he appears, from both his personal and professional dealings with women, to have assigned them a decidedly secondary position in society. “Often I have wondered,” commented Maxine Tull Boatner, a biographer, “how Edward might feel had he known a woman was writing his life.”\textsuperscript{21} Consonant with traditional employment patterns in schools for the deaf, Edward Miner Gallaudet demanded that the faculty of the National Deaf Mute College be drawn from the most prestigious universities, preferably Yale.\textsuperscript{22} In turn, schools for the deaf throughout North America were to be staffed with graduates of his all-male college. Within the manual schools status became directly linked to academic achievement: advanced education became a prerequisite for upward mobility and the pool of possible candidates was limited to those who could obtain the proper training. Contrastingly, teachers in the oral institutions gained professional qualifications and certification through a practical knowledge of the oral methods, refined by in-service training programs, unrelated to the university.

“I do not wish to be understood as condemning the employment of women in schools for the deaf,” said Edward Miner Gallaudet in
1892. "What I do condemn," he explained, "is the regression . . . of the college graduates in the corps of instructors." Because "the proportion of highly educated men among our teachers has been lessened in many places," Gallaudet concluded that "the standard of efficiency in the profession has been correspondingly lowered." Women would be satisfactory in the infant classes, but for the more advanced pupils "success can only be obtained by instructors who have secured the acquisitions and mental discipline in a collegiate course of training." And even if there were highly educated women available, he maintained, "in no corps of instructors should women be in the majority."23

While effectively closing the avenues to status in the manual institutions to women, Gallaudet was equally adamant in opposing the admission of women as students to the National Deaf Mute College. When the subject was initially broached in 1881, it elicited from him the succinct rejoinder: "I oppose co-education." It demanded, said a deaf woman, "long and persistent knocking . . . ere the National Deaf Mute College portals were reluctantly opened." In 1887 the Board of Trustees proposed that women be admitted on an experimental basis, a suggestion to which Gallaudet, perhaps sensing the inevitable, acquiesced gracefully, conditional on his taking a leave of absence in that year. The trial proved successful and the first woman graduated in 1893.24

Apart from the denial of academic expertise, the lack of access to the National Deaf Mute College meant that women failed to gain the full advantage of a structured and stringent training in the sign language, a system with semantic and syntactic structures quite different from English. Manualism lay in the province of the male teacher, while the oral modes became the exclusive domain of women. A contemporary of Gallaudet’s visualized the ideal institution for the deaf as having "Each class . . . under the charge of a zealous and faithful female instructor, who would teach . . . written language . . ., and spoken language." But "The institution should have a male principal and vice-principal, men of liberal education, and accomplished sign-makers," who would "lecture daily to the pupils in the language of signs."25

The increasing numerical dominance of women, especially in the oral schools, was a subject of grave concern to male teachers. If "the arduous nature of the work" and "the strain on the nervous system" could not induce frail women to seek more compatible occupations then the pernicious effect of pampering, especially of boys by females, was cited. Because of the "essential difference between the mind of man and the mind of woman" the oral schools would "simply develop the female mind in the male body." Hence: "one good man teacher is worth more in preparing these boys for their life work than ten or a dozen women teachers."26

Because of their perceived expertise in oral methods, their exclusion from specific university training, their consequent denial of status in the manual schools, and the training offered by the oral facilities, women staffed, almost exclusively, the oral schools in the final three decades of the nineteenth century. "The Americans employ on the largest scale and with the most marked success," commented Seguin, "the educational capacities of women." While lauding the "spirited ladies" of North America, Seguin castigated the "proposterous pedagogues" of Germany, Belgium and Holland who allowed the traditionally high value attached to male labour to blind them to the worth of women teachers.27
In many North American oral schools it was the unwritten policy to hire only women. When, for example, Harriet Rogers retired from the principalship of the Clarke Institution for the Deaf, the position was offered to Caroline Yale, the associate principal. Yale wrote that “she urged upon the Board the possible wisdom of appointing a man to the vacant principalship,” a suggestion rejected, as the trustees “felt strongly that it was wiser to continue the policy of the school without change.”

In 1873 the Jacksonville, Mississippi, Institution was, except for the directors of ‘mechanical labour’, all women. The Boston Day School for the Deaf employed only women and there was a high proportion of female staff at the MacKay Institution for the Deaf and Dumb and the Blind in Montreal under Hattie McGann. Women were not only employed in the schools but filled the highest administrative posts. In 1884 such prestigious oral institutions as the Chicago Voice and Hearing School, the Portland Day School, the Rhode Island School for the Deaf, and the oral branch of the Pennsylvania Institution for the Deaf and Dumb were all under the leadership of women. In the same year manual institutions such as the New York Institution for the Deaf and Dumb, the American Asylum for the Deaf and Dumb at Hartford, the Halifax Institution for the Deaf and Dumb, and the National Deaf Mute College were not only administered by men, but were staffed predominantly by males.

Table 1 illustrates explicitly the trend, demonstrating the large number of women in the oral schools, and their considerably smaller ratio in the manual institutions. In schools employing a combined method—manual with articulation taught to selected pupils, the numbers are more equal, as women made inroads, assuming the role of oral teachers, and men took administrative positions.

A case study of the Pennsylvania Institution for the Deaf and Dumb furnishes a prime example of the oral trend and sums up with sufficient precision the state of affairs at the end of the nineteenth century. In 1881 only 10 percent of the pupils were taught by oral modes, Emma Garrett being principal of a separate oral department within the school. By 1893 the percentage of orally taught pupils had risen to 50 percent, and in that year legislation was passed “requiring that all pupils thereafter received into the school be placed under oral instruction and maintained under oral instruction until it was shown that they could not be so taught.” By 1905 there were 96 percent of the deaf children in Pennsylvania under oral instruction.

Women teachers in the oral schools formed a community of articulate and self conscious educational innovators, being the carriers of a new professional ideal, dedicated to reforming their profession and thereby drastically altering the parameters of the education of the deaf. Decrying the mediocre intellectual products of the manual schools, oral teachers placed an unprecedented emphasis on academic claims, intellectual development superseding the inculcation of moral values. Reforms in curriculum led to the imposition of rigorous standards and greatly heightened expectations of the intellectual capacities of deaf children. Not only academic skills were taught, but values which enabled and encouraged students to attempt public roles not previously thought consonant with their handicap.

Opposingly, in the manual institutions there existed a genuine and almost passionate devotion to the interests of the pupils in regard to industrial training. Education was fashioned into an increasingly refined training mechanism for the labour force, domestic training and the skills appropriate for manufacturing activities supplemented by a
restricted literary curriculum. The quest for economic independence for the adult deaf bounded manual school instruction; a seeking of greater social mobility determined oral curriculum.

Propounding views vastly at variance with those of the manual teachers, oralists formed a discrete and distinct group within the profession. Important adjuncts to the professionalization of oral teachers were journals and conventions that served to foster the oralists’ conception of themselves as a group separate from the manualists. The American Association to Promote the Teaching of Speech to the Deaf, initiated in 1891 for the dissemination of the oral creed, became an effective forum. Not only did the AAPTSD allow the public advocacy of pedagogical philosophy, but it enabled the oral teachers to see themselves as a special group of experts, with their own professional ideals and values.

Student success under oralism provided an enduring note of optimism, hearkened to by the entire profession. Women labourers in the field were seen as the holders of an extraordinary expertise, and were widely sought. The principal of the California Institution for the Deaf and Dumb, for example, offered a teacher at the Clarke Institution $1,200 in gold to introduce the oral methods into that state.31

As the manual institutions failed to defend their existence successfully against the promises and very real successes of oralism, the philosophy of speech for the deaf was adopted by parents and educators. So successful was the campaign of that women teachers to elevate oralism to the status of the dominant ideology that by the beginning of the twentieth century it constituted the preferred mode for educators in the majority of North American institutions for the deaf.

In summary, it can be stated unequivocally that oralism was an educational reform initiated, brought to fruition and eventual dominance, by female teachers. Women became major spokespersons on the stage of deaf education, disseminating and articulating their ideas widely, challenging the trenchant conservatism of the manualists not only in regard to pedagogy but concerning the entire value and content of the education of the deaf. Every aspect of schooling, from administration to pedagogy and from finance to the sex of the teachers, was examined and transformed by the oralists, all alterations explicitly related to the explosion of the myth that deaf children could only learn the elements of language manually.

While oralism was initially a female reform, men soon enlisted in the cause once the fate of the manual methods was decided, and the professional division along the lines of gender largely disappeared. The oral schools retained their emphasis as the surrogate family, and stayed exclusively the domain of women. Within the manual schools women were still seen to be holders of a special expertise but, in imposing the system on the traditional institutional structures, one major component of the philosophy was lost. Oralism, separated from the novel setting envisaged initially became, while still the specific province of women, merely another pedagogical technique rather than the total philosophy as practised by Yale, Rogers and others in the final three decades of the nineteenth century.
Table 1

Staff members in schools employing a manual, oral or combined method, 1890.

<table>
<thead>
<tr>
<th>School</th>
<th>Methodology</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Asylum</td>
<td>Combined</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>New York</td>
<td></td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td></td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>Kentucky</td>
<td></td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Ohio</td>
<td></td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Virginia</td>
<td></td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Indiana</td>
<td></td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Tennessee</td>
<td></td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Georgia</td>
<td>Manual</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>National Deaf Mute College</td>
<td></td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Maryland Colored</td>
<td></td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>New Orleans Public</td>
<td></td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Cincinnati Public</td>
<td></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>St. Louis Day</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Evansville</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Texas Colored</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Georgia Colored</td>
<td></td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Chicago Voice and Hearing</td>
<td>Oral</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Sarah Fuller</td>
<td></td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

New York: Improved Instruction: 5 10
Clare: 0 14
Horace Mann: 0 10
St. Joseph's: 1 20
Portland Day: 0 6
Rhode Island: 0 5
Milwaukee Day: 1 5


NOTES


3. Fred De Land, "'The real romance of the telephone, or why deaf children in America need no longer be dumb'", Association Review, 8 (1906): 17.


11. Blackburn, "'Our deaf and dumb'", p. 595; Alexander Graham Bell, "'The progress made in teaching deaf children to read lips and talk in the United States and Canada'", Science, 20 (1892): 118.


15. W.G. Jenkins, "'The scientific testimony of facts and opinions'", Science, 16 (1890): 85; Miss Redden, "'A few words about the deaf and dumb'", American Annals of the Deaf and Dumb, 10 (1858): 177.


19. Seguin, "'Report on education'", p. 72; Harris Taylor,
“The ichthyosaurus, the cave bear and the male teacher”,
22. In 62 years there were 50 Yale graduates who entered the field of deaf education. See “Yale graduates”, American Annals of the Deaf and Dumb, 24 (1879): 193.
28. Yale, Years of building, p. 163.