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Rehabilitation of the Deafened

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CURRENT COMMENT

REHABILITATION OF THE DEAFENED*

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The forerunners of our American schools for the deaf were established in Europe during the year 1760. Abbe M. de l'Epee systematized the instruction of deaf mutes in his own school in France, and simultaneously Thomas Braidwood opened a private school at Edinburgh in the British Isles. Not until 1817 did the United States open its first permanent school for the deaf. A survey in the city of Hartford, Connecticut, discovered 84 deaf children, and when 400 more were found in New England, it was decided to do something about it. Funds were raised sufficient to send a theological student, Thomas H. Gallaudet, to Europe to study methods of educating the deaf. Finding the schools in London and Edinburgh closed to him, he went to France, and learned sign language and finger spelling. He returned, bringing an experienced French teacher named Laurent Clerc. Additional funds were rapidly gathered, and the Connecticut Asylum at Hartford was opened April 15, 1817, after a charter was granted by the Connecticut legislature. Henry Clay, Speaker of the House of Representatives, became interested in 1819, and succeeded in obtaining a Federal grant of twenty-three sections of wild land. It was owing to this munificent gift that the name of the school was changed to the American Asylum. Other States sent their deaf children—Massachusetts, New Hampshire, Vermont, Maine, and Rhode Island, as well as Georgia and South Carolina.

Rev. John Stanford started a private school which is now known as the New York School for the Deaf. Pennsylvania, Virginia, and Kentucky followed. Since 1843 the oral method of teaching has become accepted as the most practical. Over the years the deaf have been taught not only to communicate with the sign language but to speak and to read lips and interpret facial expressions. At the present time greater emphasis is placed on teaching the deaf to mingle with normal-hearing people in as natural a way as possible.

In 1929 a resolution framed by the principals of American schools for the deaf read as follows: "The time has come for all schools to recognize the practical value of speech and lip reading in all the activities of the schools and in all the relations of life outside the schools."

The proportion of pupils being taught orally rose from 20 per cent in 1892 to 72 per cent in 1940. Only 27 per cent were being taught to speak in 1884, whereas over 86 per cent in 1940 received instruction and could converse (though deaf to their own voices).

There is still a strong feeling among the deaf that the sign language is a beautiful one and is of priceless value. In 1930 the National Association of the Deaf affirmed "that the oral method does not give the chance for the best education, and that methods best adapted to the all-round development of the deaf child should be employed; and that the sign language appears the only practical satisfactory means by which the deaf may understand lec-

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tures and services, participate in debates and discussions, and enjoy mental recreation and culture."

The Empire State Association of the Deaf in 1938-40 published this statement: "The educated deaf bear overwhelming witness to the truth that the sign language and manual alphabet are the most practical, convenient and dependable medium of expression for those without hearing."

At a recent religious meeting I noticed a woman standing before a group in the balcony beside the rostrum. During the sermon she would translate as rapidly as the minister spoke, using her hands, fingers, arms, and facial expression. It was a magnificent demonstration of human ingenuity to hurdle the handicap of deafness. To see this instantaneous transfer of the spoken thought into visual language that others might grasp it was indeed thrilling. Only intensive attention, heaped upon hours of practice, could achieve such a harvest of accomplishment.

Over recent years it has been demonstrated that 97 per cent of the children in schools for the deaf have residual hearing. Consequently, with the advent of vacuum tubes for the amplification of sound without distortion, the possibilities are expanded for teaching with the aural method. Not that hard-of-hearing persons can ever hear like normal people, but they can be educated by sounds to differentiate between, and, most of all, to be alerted to, the vibrations of speech, music, or noise.

The present general methods of teaching may be summarized as follows:

1. Oral—speech training and speech reading.
2. Manual—sign language and digital spelling.
3. Scriptorial—writing.
4. Acoustic—aural.
5. Combined—oral and manual.

When the vocal articulation is quite unsatisfactory and hardly worth the effort, a transfer to the nonoral means of instruction should be accomplished.

Of the 64 residential schools, 45 use the combined, 12 the oral, and only six the manual alphabet method of instruction. The United States has invested $55,000,000 in the school plants, and spends $7,760,000 for maintenance of residential schools and $750,000 for day schools per year (1940-41). Private schools spend about $250,000. This makes an average cost per pupil per annum of $540 in residential schools, $250 for the day school, and over $300 for the private school. Compare this with the $88 per pupil in the common school and you see that the deaf child costs 3 to 8 times as much to educate.

"There has been produced (though the world in general knows little of it) after years of trial and discouragement and patience and determination, a system of specialized education that should be a source of pride to all who have had some part in it, a blessing to those who have benefited by it, and an honor to the civilization in which it has a place."

For the preschool child, day schools have been developed in which the mother with the child can be instructed. The John Tracy Clinic in Los Angeles, California, has added an educational program by correspondence. Recently many Australian mothers contracted rubella early in their pregnancy, and their babies were born with defective hearing. Over 25 of these have been enrolled and are receiving their lessons by mail from this clinic. Private contributions support this effort.

So far we have been considering the deaf child, who is understood to be one whose sense of hearing is nonfunctional for the ordinary purposes of life. Those deaf at birth are the congenitally deaf. Those whose deafness comes on soon after birth through disease or trauma, before the ability to speak is established, are the adventitiously deaf. Less than 100,000 compose this group, in the United States.

The children in the public schools are classi-

fied according to their hearing loss and fall into four groups, as follows:

1. Loss of 20 decibels or less in the better ear.
2. Loss of 40 decibels or less in the better ear.
3. Loss of 60 decibels or less in the better ear.
4. Over 60 decibels loss in the better ear.

Recommendations are made according to these groups, with individual variations, for example:

1. Favorable front seat.
2. Favorable front seat and include lip reading. Some speech correction when needed. Hearing aid, may or may not be used.
3. Front seat, lip reading, speech correction, and special tutoring. Hearing aid, important. Partial attendance in regular class for certain subjects. Partial attendance in special class for hard of hearing in regular school.
4. Full attendance in special class for hard of hearing in regular school. Full attendance in special day school. Full attendance in special co-educational boarding school. Hearing aid may or may not be helpful.

With the marvelous advance in hearing-aid manufacture, so that a single plastic case of small dimensions and light weight contains an entire amplifying and receiving system, it has become very practical for children to wear an aid. Here again we must give credit to the engineers and sponsors who have given to the deafened this perfection of sound reproduction in these miniature radios for inconspicuous wearing.

Over 3,000 servicemen who were deafened in World War II have been added to the millions in civilian life who find themselves unable to carry on normal conversation with their fellows. To those in adult life who become so afflicted, injurious psychological effects often develop, very frequently out of all proportion to the hearing loss—a damaged personality, which baffles the individual himself. He does not appreciate the connection between changes in his power to hear and changes in his emotional, intellectual, social, and economic life.

The sight sense informs us of the physical environment, whereas the hearing sense deals with the social environment. For contact between our mind and that of the speaker, we rely on our ears. Lacking a clear understanding of what the other person says, makes for many annoying fumbles, and perhaps many humorous ones too. No other disability yields such a crop for gag men, yet we seldom hear of any joke about the blind. As one deafened young woman factually stated, "What boy wants to shout, 'I love you!'?"

With the Medical Corps in charge of the rehabilitation of the deafened, both the Navy and the Army organized every available educational, medical, acoustic, engineering, psychological, and vocational talent. Four centers particularly concentrated on this problem. The one for the Navy is at Philadelphia, under Capt. M. J. Aston, with Commander Francis L. Lederer as head of the Otological Division. The three for the Army are: Deshon General Hospital in Butler, Pennsylvania, Borden General Hospital in Chickasha, Oklahoma, and Hoff General Hospital at Santa Barbara, Calif.

Thus were gathered together otologists, with the latest and best equipment for measuring hearing and with the finest hearing aids, acoustic physicists, technicians, psychologists, and the best-trained instructors in speech correction, hearing training, and lip reading. In addition were the therapeutists and vocational advisers. The entire nation will profit from the extensive research carried on, primarily for the war-damaged hearing of our gallant men and women. Naturally a civilian could not avail himself of such extensive service as has been accorded to these men; but the findings are being made available to adapt to civilian need.

After an enlisted man or officer is diagnosed by his local physician as eligible, he is assigned to one of the afore-mentioned hospitals. The Medical Officer becomes responsible, and outlines his needs after pure-tone audiometric, speech reception, and speech discrimination tests, as well as others, are made for diagnosis. A technician then makes appropriate individual fitting for each hearing aid instrument

(choosing ten from the council-accepted list). The patient tries each instrument for forty-eight hours. To try all of them it takes about two and one-half weeks' time, and thus he learns the limitations of an aid. The men are given hour after hour of intensive classroom drill in learning how to hear with a hearing aid, and are graded on the results obtained. For example, he must learn how to telephone, how to conduct an interview with a typewriter clattering at the next desk, how to follow a conversation with three or four people talking simultaneously in the same room, how to shut out background noises in the subway and at restaurants, how to listen to music or lectures, and how to care for his instrument and batteries.

From the three or four instruments selected by the patient, he is given further evaluation tests in the laboratory: psychoacoustic, special word lists, and tests for threshold level and tolerance limit (dynamic range of instrument), ability to hear against background noises (the instrument which allows for the greatest intensity of static is most practical). If, finally, there are two instruments which give equal efficiency, the patient makes the choice.

There are intensive courses in speech and hearing re-education for those needing them. What formerly took one and a half years has been condensed to eight weeks. That has been accomplished at the Navy hospital by a professional therapist of outstanding ability, Lt. (jg) Miriam Pauls.

We must not forget the newer approach to make speech immediately visible on the screen in the form of a sound spectrograph. This is being tested out in the Bell Telephone Laboratories. Quoting from their recent book *Visible Speech,* page 288: "Principles for the translation of speech into meaningful patterns are established, but a considerable amount of work remains before the deaf will benefit by this result even though it does constitute a major advance."

SUMMARY

The educational program for the deafened children originated in Europe and was brought to America through the stimulus of sympathetic Christian ministers and laymen. The sign language and finger spelling have given way to the more natural speech-reading and speech-using methods of today. The advent of improved hearing aids, especially the vacuum-tube type, has greatly augmented the enjoyment of social contacts for the deafened individuals. Combining all the past accomplishments and uniting the personnel for the rehabilitation of the servicemen who under shock and strain have lost their acuity of hearing, the Medical Corps have taken a splendid forward step, and have made a grand showing in results. Their research has brought to us all a better understanding of how to select hearing aids, showing their limitations and emphasizing the importance of individual application in the use of the "listener tool."

The person who needs an aid but refuses to wear one is often more conspicuous by reason of his mistakes in understanding what is said to him, or by his lack of proper voice control, than he would be with a cord around his neck and a button in his ear.

Ultimately a man's attitude toward his handicap determines the real seriousness of it. "Acknowledge your defect. The more intelligently you deal with it, the better your adjustment." In other words, a man's success or failure is predicated on his entire personality and character, not on the physical state of his ears.