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REMARKS UPON THE DEAF AND DUMB.

CHIEFLY FROM A PUBLICATION BY JOHN R. BURNET, OF THE NEW YORK ASYLUM.

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[Communicated for the Boston Medical and Surgical Journal.]

A WORK which has lately appeared under the title of "Tales of the Deaf and Dumb," contains some remarks respecting that unfortunate class of persons, which perhaps may not be without interest to the medical reader. Although the volume under consideration was especially designed, as stated by the author, "for the educated deaf and dumb, and for those who take a particular interest in the education of persons thus afflicted," it necessarily leads to the relation of observations and facts which have a bearing upon the profession of medicine. But if a notice of these facts should be considered as a deviation from the regular course of a Journal devoted to the great interests of medicine and surgery, or should the subject be deemed derogatory to the dignity of those who (striving in the path of well doing) ponder over the "tablets inscribed in the temple of *Æsculapius*" alone, it is hoped that the sympathy for the misfortunes of our fellow beings, and the desire to afford relief, which are characteristic of the professors of the healing art, may be received as an apology.

The fact that the volume before us is the authorship of one who is himself among that unfortunate class, for whose benefit it was mainly prepared, being "deaf from an early age, and, except to a few familiar ears, also dumb," will add to the interest of its perusal, to those whose time or inclination should lead them to examine the work itself. And, as in the case of those who are deprived of the use of a different organ of sense, viz. the eye, experience has disclosed the novel fact that the blind are the best teachers of the blind, so it may be presumed that one who has felt the full weight of the evils of being deaf and dumb, and has successfully surmounted the obstacles in the path of knowledge, will be best able to point out the course to others similarly situated.

With respect to the number of our fellow beings, who are deprived of the faculty of hearing and consequently of speech, the first division of this work ("On the early domestic education of the deaf and dumb") contains the startling announcement that "on a general average, one deaf mute may be found in every fifteen hundred souls: or about *half a million* of the inhabitants of this globe are *deaf and dumb*." "By the census of 1830, the United States then contained *six thousand one hundred and six persons* who were deaf and dumb." "Twenty years ago, there was not a single school for the thousands of our deaf and dumb

population, and twenty-five only for the tens of thousands of Europe. Now there are one hundred and thirty institutions in the world, and six of these are in this country. In these six, about *four hundred and fifty* are receiving the blessings of education."

With a view to preparing, says our author, "those who are born deaf and dumb, or who have lost their hearing by sickness or accident in early life, to derive to the fullest extent the advantages offered by the public institutions, it is indispensably necessary that their education, like that of hearing children, should commence *at home*, and at as early an age as possible."

"During the first months of existence, there is no perceptible difference between the hearing child and one born deaf. But as soon as it makes the first attempts to produce vocal sounds or articulate, the difference becomes perceptible." "The deaf child has the same power of producing sounds, as his hearing brothers and sisters, and in fact often exercises it without knowing it; but experience cannot inform him of its existence, and consequently it becomes useless to him, i. e. is never called into action." "But those signs by which nature teaches us even in infancy to communicate our sufferings and our wants, remain to the dumb; and the *eye*, the first and in fact the nearest channel of communication between mind and mind, must be taught and educated, as the medium by which those signs may be recognized." "The remedy, then, and the only but an efficient remedy for the misfortune of the deaf, is, by *making their eyes supply the place of ears*." And this rule is applicable as well in our intercourse with those who have lost their hearing at a later age, as in those who are born deaf.

"The process of teaching the deaf and dumb to speak or articulate, depends mainly upon the following points. First, to teach the deaf child to imitate the motions of the lips in pronouncing some vowel; the letter being at the same time pointed out to him. Then take his hand and put it before your mouth, that he may feel the expiration of air which accompanies utterance, when you renew the pronunciation of the vowel; and then place your own hand before his mouth, as if expecting that he should imitate you in this also. After some trials, he will probably pronounce the letter in a kind of whisper." "Finally, take his hand and apply it to your throat (upon the vocal box or larynx), and make him observe the *vibration* which takes place, when you again renew the pronunciation of the vowel. This time the child will probably utter a vocal sound, more or less resembling the sound of the letter selected for the lesson." That this process will require much patience and perseverance on the part of the teacher, is evident, but success will result eventually. "The proper sounds of the vowels depend more upon the position of the tongue, than upon the opening and position of the lips. If, therefore, the pupil does not give the desired sound at first, though he imitates the motions of your lips, it must be because his tongue is not in the proper position. You must then carefully make him observe the position of your tongue in pronouncing a letter, and for this purpose you must speak with a well-opened mouth and facing the light."

"Many children who pass for *deaf mutes*, are only *partially deaf*. Some will readily hear noises, while they cannot distinguish words,

because finding it difficult to distinguish words, they neglect to listen. Experiments made at the Parisian Institution on several such, have proved that they may be taught to distinguish sounds, by only accustoming them to listen ; and in teaching them to speak, they are often to a considerable extent taught to hear. Both their speech and hearing may be greatly improved by judicious exercise." "It is generally supposed that a greater number of children lose their hearing in infancy, than are born deaf." This fact, however, cannot be ascertained with certainty, as, in the opinion of some eminent surgeons, the faculty of hearing in infants is naturally imperfect, which explains a common remark that infants are pleased and attracted by loud noises ; and it must therefore in many cases "remain doubtful whether the child was born deaf or lost its hearing by disease." "Nothing, however, is more certain than that those children who lose their hearing, before articulation has been acquired or sufficiently impressed on the memory, will become *dumb*." The truth of the following observation will be generally acknowledged by physicians who have had much experience in diseases of the ear, viz., "that although deafness (entire or in a great degree) has been sometimes cured or relieved by medical means, yet the success of those means is in most cases extremely doubtful.*

"Whether deaf and dumb persons are more numerous now than in ancient times, will never be known with certainty ; but in every age of the world, deafness appears to have been a common infirmity." "To whatever cause," says Professor Barnard, "it may have been owing, it was the universal sentiment, in ancient times, that the deaf and dumb were wholly incapable of instruction" ; and this was the stern decree pronounced against them by Aristotle, the master philosopher of antiquity. As late as the end of the fifteenth century, no effort had been made to afford them the benefits of instruction and education. But in the sixteenth century a new era opened upon this unfortunate class.

To show to what extent deaf mutes are capable of instruction, we subjoin the following account. "In Spain, which may be called the cradle of this art" (instructing the deaf and dumb), "certain deaf mutes, the pupils of Ponce, had been taught so that they spoke, wrote, prayed aloud, attended mass, confessed, spoke Greek, Latin (as well as Spanish), and reasoned remarkably well upon physics and astronomy." And at a later period, it is related of another, that "although insensible to the report of a cannon, he could distinguish by sight alone the words of others, and had himself learned to pronounce distinctly. Physicians and surgeons had exhausted upon him in vain every species of remedy." By way of experiment, words were pronounced in the presence of this young man, both in French and English, and he repeated them exactly.

Of Ernaud, a French teacher, it is related that he employed himself very much in reviving the sense of hearing where it was partially lost. He asserts, indeed, that he had met with no instance of *entire deafness* ! Articulation was of course his principal instrument in the instruction of his pupils.

* The failure of a very large proportion of the operations for the cure of deafness by puncturing the membrane of the tympanum, seems to have occasioned a general neglect of an operation, which in certain cases of deafness offers the only, if not a reasonable, chance for the recovery of hearing.

Of the capability of the deaf and dumb for receiving instruction, there is no longer any doubt. The bright examples of extensive and varied acquirements which our own country has afforded, fall not much short of the instances cited above. "At the Hartford Asylum, which is the oldest on this side the Atlantic for the instruction of the deaf and dumb, the number of pupils, by their last annual report (May, 1834), was 133, which is the average number for the last three years. The number of former pupils is 344; 477 having enjoyed the advantages of the institution." This asylum, it may be observed, owes its origin to the circumstance of the deprivation by disease of speech and hearing, of a child of a respectable physician* at Hartford; by whose exertions, aided by a few friends, a school was opened in that place in April, 1817. "The number of institutions for the deaf and dumb in this country is six, viz. one at Hartford, Conn.; one in the city of New York; another at Canajoharie, N. Y.; one in Philadelphia; one at Danville, Ky.; and one at Columbus, Ohio."

Speaking of the causes of deafness, he says, "It has been supposed that the proportion of deaf and dumb persons among the population of different districts being known, would enable us to ascertain some of the causes which produce deafness; but we confess ourselves wholly unable to form any opinion on that point, at least so far as respects the white population." From our author's observations, it would appear "that in every State north of the Potomac and Ohio, the proportion of deaf and dumb among the colored population is much greater than in any State south of those rivers." "It is also to be observed, that in the northern States the proportion of the deaf and dumb is much greater generally among the colored than among the white population; whereas in all the southern States, the case is precisely the reverse." Mr. Burnet concludes from this, "that deafness is frequently occasioned by the want of physical comforts;" under the supposition that the slaves of the South are as a class much better provided for than the free blacks of the North. As far as my own limited observation extends (in this city), I am not aware that the colored population presents a proportion of cases of deafness at all greater than the white population of the same situation in life, or with similar means of obtaining a livelihood. As regards the difference in favor of Southern slaves over the black population at the North, I would hazard the conjecture, that this may be attributed to the influence of the climate at the South, which is probably more congenial to the habits and constitution of the colored race than that of the North. Cold and moisture, it is well known, are among the most active causes of catarrhs, inflammation of the mucous membranes of the head and of the eyes, and also of affections impairing the hearing. Owing to a like deficiency of the comforts of life, it happens, says Mr. B., that "a larger proportion of deaf mutes among the whites belong to the lower classes." This is analogous to what occurs in diseases of the eye, the poor forming by far the largest class of sufferers from these diseases.

"From observations made both in this country and in Europe, it is estimated that at least *one half* of the deaf and dumb were born with the

* Dr. Cogswell—since deceased.

sense of hearing. Among 276 pupils received into the Hartford Asylum up to 1829, 116 were born deaf, 135 lost their hearing by disease or accident, and in 25 cases the cause of deafness was unknown. "The greater number of those whose deafness was accidental, lost their hearing under the age of *four* or *five* years, but in several instances dumbness, more or less complete, has followed the loss of hearing as late as the age of *six*, *seven*, or *eight*, and perhaps even later." "When children are born deaf, there will very often be several afflicted in a similar manner in the same family; but when their infirmity is owing to disease or accident, they are generally single cases in their respective families. Instances of two or more children thus afflicted are not, however, wanting."

"As all children," continues our author, "are liable to become deaf, it is interesting to inquire what diseases are most usually the causes of deafness." "*Fevers*, particularly *spotted fever*, and the canker rash, most frequently destroy the sense of hearing." "Out of one hundred and ten cases, about sixty (or more than half) were ascribed to attacks of fever, and two thirds of these to scarlet and spotted fevers. Other cases were ascribed to various diseases, as the smallpox, measles, inflammation of the brain, whooping cough, &c.; and to accidental causes, as the discharge of cannon, sudden falls, blows on the head, &c." To these might be added a not infrequent cause, viz. a sudden check or suppression of the perspiration. The result of the observations of the director of the Ohio Institution, corresponds with the above statement.

Respecting the occurrence of deafness and dumbness in *several* members of one family, Mr. Burnet remarks, p. 118, that "four families contained each *five* deaf and dumb children, two contained each *six*, and one contained *seven*."* There have been several instances in which one family contained *seven* deaf and dumb children, and Mr. B. had heard of a family containing *ten*. In this respect a striking analogy has been found to exist in cases of *blindness*; repeated instances having fallen under the notice of the writer of this, in which two or more members of one family were blind, from congenital defect of vision. Congenital blindness is, however, of far less frequent occurrence than congenital deafness would seem to be from the statements in this volume. Indeed it is a fact well known to those who are conversant with the diseases of the organ of vision, that nine tenths of the cases of blindness occurring in infancy or early childhood, are the result of diseases commencing subsequent to birth (in some cases a few days only), which terminated in the loss of vision, from neglect or mistreatment. Amaurosis and cataract are the most conspicuous in the class of congenite diseases of the eye. Congenital staphyloma is more rare, although well attested cases of this disease have occurred not infrequently.

Respecting *hereditary deafness*, or deafness transmitted from parent to child, our author remarks that "deafness, though so frequently afflicting several members of the same family, does not seem to be as frequently transmitted from parents to their children. Only two cases are cited by the directors of the Hartford Asylum, in which parents who were deaf and dumb, have had deaf and dumb children, although more than twenty

* In these cases the deafness was in all probability *congenital*

of the former pupils of the Asylum have become heads of families. In one of these instances, the father and four of his children were deaf and dumb; in the other, the father and two of his children."

The instance of persons who were deaf, dumb and blind, is familiar to many. The whole number of this truly unfortunate class does not exceed eight individuals.* "In only two of these cases was the deafness and blindness from birth." All these have occurred within the last thirty or forty years.

Respecting the cases that have occurred in Ireland (stated at three or four), the Committee of the Irish Institution at Claremont, near Dublin, state "that they have all been the consequence of that scourge, which prejudice would still inflict on the human race, smallpox."

The consideration of the above facts induces us to express a hope that *physicians* will make it a point of duty to investigate carefully such cases of deafness and dumbness as may present themselves to their notice, and give to the medical public the results of their inquiries. By so doing, they may throw some new light upon the hidden and obscure causes of so great an infirmity as deafness, and remove—at least in part—the imputation that diseases of the ear have not received the degree of attention from the enlightened and philanthropic medical profession, which their importance to the well being and comfort of the community demands.

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REVIEW OF CERTAIN CASES OF FRACTURE TREATED AT THE PENNSYLVANIA HOSPITAL IN 1834.

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[Concluded from page 237.]

It is not a little surprising how easily extensive injuries of the head are manageable, when there is free vent given, and the atmospheric pressure admitted to assist in keeping up an equilibrium of circulation. Besides this, it would seem that the irritation in the integuments from the incisions in the scalp, assists to transfer the internal irritation to the surface, and by this transfer of local irritation to another texture, renders the irritation of the brain less impressive. It will be insisted on, that excess of inflammation may be quite surely suppressed when free vent is given to the internal pressure and congestive state of the cerebral organs. In no instance has the writer had a case of this description go wrong in the after treatment. A small fissure, even without depression or effusion, is liable to inflame, and the case is also liable to a greater danger from inflammation and its sequences, than a large fracture with depression and effusion of blood, where incisions have been freely made and the trephine used.

However, in order to insure success, this instrument ought to be early used in every case in which it becomes necessary. At the onset, in bad cases, it is never necessary to wait for the reactive processes; for most

* Many of the deaf and dumb, however, are blind of one eye.