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HAWKINS
ON THE
CONSTITUTION
OF THE
DEAF AND DUMB

COLUMBIA INSTITUTION

—FOR THE—

DEAF AND DUMB

THE CHARLES BAKER COLLECTION

NUMBER

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THE
PHYSICAL, MORAL, AND INTELLECTUAL
CONSTITUTION
OF
THE DEAF AND DUMB:

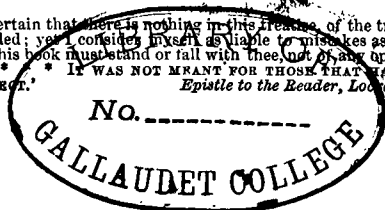
WITH SOME PRACTICAL AND GENERAL

REMARKS CONCERNING THEIR EDUCATION.

BY JAMES HAWKINS.

'..... causa latet vis est notissima.....' OVID.

'..... Though it be certain that there is nothing in this treatise of the truth whereof I am not fully persuaded; yet I consider myself as liable to mistakes as I can think thee; and know that this book must stand or fall with thee, not of any opinion I have of it, but thy own. * * * * * It WAS NOT MEANT FOR THOSE THAT HAD ALREADY MASTERED THIS SUBJECT.'
Epistle to the Reader, Locke's Essay.



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NEW-STREET SQUARE

PREFACE.

THE Author's principal motive, in writing the following little Work, is, an endeavour to convey to those who feel any degree of interest in the Deaf and Dumb, some specific knowledge of them, in relation to their physical, moral, and intellectual constitution ; and some idea of the various contrivances which have been designed to develope and strengthen their torpid understanding. In treating of the physical constitution of the Deaf and Dumb, especially where so much rests upon sheer conjecture, any assertions differing in complexion from existing admitted opinions, are likely to be accepted with considerable caution. But, as the Author has ventured those speculations only which will stand the test of reason and probability, he trusts that part of his Treatise may meet with open and unprejudiced attention.

The present crude state of all physiological, as well as pathological science, necessarily renders very conjectural any remarks upon the *origo mali*, or the physical phenomena of disease. The fall of Adam is one of the most favourite of the theories which are nursed by Divines and others, in an excess of Hutchinsonian zeal ; and to this ' excellent foppery of the world,' as Shakspeare has it, they like to attribute

every bodily affliction and mental evil that can happen to mankind. Argumentative reasoning, however (of this kind especially), shows 'an indiscreet zeal about things wherein religion is not concerned,' as weak as it is undoubtedly fallacious, and affords them but a poor 'coigne of vantage;' for the majority of our inborn and acquired calamities are oftentimes none other than the 'surfeit of our own behaviour,' the spontaneous results of injury done to the functions of the body, by throwing its natural and complex organization out of gear, and not, as many would make us believe, *always* direct constitutional imprints of the Creator's anger on his creatures.

Neither is it safe always to attribute these occult phenomena to the freaks of nature, nor the eccentricities of disease; as possibly they are more frequently (to use an expression of Paley) the operations of causes without design, or the offspring of apparently adverse influences, the effects, as well as causes, of which could be controlled, or at least mitigated, by man.

Pathologically speaking, both the innate and acquired forms of deaf-dumbness are in most cases decidedly incurable; but, taken in a physiological aspect, they are much more under the influence of man than is generally imagined. As it will be found remarked in the course of the following pages, one of the essentially predisposing sources of *innate deafness* is now generally believed to be, the intermarriage of close or blood relationship; alliances of this nature being directly opposed to those strange organic laws which are ever secretly acting upon the whole animal creation. Yet the open avowal of this doctrine (true

as it undoubtedly is) is looked upon as ultra-Malthusian and almost heterodox. Appeal is made to the Scriptures, and the case of Zelophehad's daughters, who '*were married unto their father's brothers' sons,*' instanced to us as a precedent which God himself had sanctioned and established, in the Pentateuch, under the Mosaic laws.

One of the essential, though indirect sources of *acquired deafness* is, the prevalence of zymotic diseases. Now, sanitary measures and medical precautions control these kind of diseases; consequently, man, in checking their progress, is at the same time diminishing another distinct malady (permanent in its nature) radiating from them. This has been evidenced in the cleansing and improving of the filthy purlieus of large towns, and in the introduction of vaccination as a check upon the ravages of small-pox, a disease that, prior to Jenner's discovery, was a very frequent source of after-birth deafness.

The Author's remarks upon the moral and intellectual constitution of the Deaf and Dumb are not the cursory issue of mere theoretical speculation; but such as have been deduced *from several years' actual observation* and attentive research, 'Practical observation has been, in fact, throughout the guide and monitor of his thoughts, without the slightest influence of any particular bias. He has nowhere stooped to the warping of any established opinions, nor to the garbling or reticence of any capitulated facts, to accommodate individual or esoteric purposes. In addition to the practical sketch of the various vehicles employed to develope the understanding of the Deaf and Dumb through the external senses, the Author

has also incidentally glanced at two very prominent collateral questions, connected with deaf-mute education and the importance of efficient teaching power; but salient points (as these truly are) demand more individual attention than could well be devoted to them here.

Particles of science, Dr. Johnson says, are often widely scattered, and he who collects these is very laudably employed. Notwithstanding, therefore, that this humble production is not intended for those *professionally* associated with the subject—but to supply a want which has been long experienced by the parents and friends of Deaf and Dumb children—it will, at the same time, be found to contain stray hints and waifs of information which even teachers—

————— *Dĩ ! cœptis* —————
Aspirate meis, —————

might accept with profit to themselves and advantage to their pupils.

This work, produced *invitâ Minervâ*, aspires to no literary pretensions whatever, and the Author,

————— no cormorant for fame —————

in issuing it to public notice, has been solely induced to do so from the idea, that it will prove a modest and truthful reflex of that sequestered class of humanity, which an inscrutable fate would seem to have decreed—shall hear not: speak not.

JAMES HAWKINS.

LONDON:
May 1863.

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THE
CONSTITUTION
OF
THE DEAF AND DUMB.

INTRODUCTORY OBSERVATIONS.

We cannot be guilty of a greater act of uncharitableness than to interpret the afflictions which befall our neighbours as punishments and judgments. It aggravates the evil to him who suffers, when he looks upon himself as the mark of Divine vengeance, and abates the compassion of those towards him who regard him in so dreadful a light.—*Addison*.

DEAFNESS, or want of the *hearing* ear, is commonly classed among those ‘thousand natural ills of life,’ which seem to have been visited upon the human race—‘*that the works of God should be made manifest*’ in us. This hopeless defect is not only a congenital affliction, but also the frequent (but not inevitable) sequence, or secondary affection, of some diseases to which the frame or constitution of man is subject *after* birth. It is, perhaps, one of the most inscrutable, and, consequently, least understood, of all subjects connected with physical knowledge; for, although science has certainly taken gigantic strides in solving many of the *other* occult and abstruse problems in nature, it has, hitherto, done little or nothing in regard to the elucidation of *this* great

mystery and 'desperate' calamity. Using the appropriate language of Hooker, it may be said to be 'one of those acts which are eternally proceeding from God, the particular drift of which we are not able to discern, and therefore cannot give either a proper or certain reason for such works on the part of our Maker.'* The impenetrable mystery surrounding this and other peculiar defects incident to mankind, shows us, moreover, that, whether by the operations of nature or otherwise, it is subservient to that eternal law, 'that order, in fact, which God, before all ages, hath set down with himself, for himself to do all things by.'

Those of us in the blissful possession of every faculty find it somewhat difficult to form an adequate conception of the actual sensations of the deaf and dumb; but perhaps it is possible to approach some slight idea, by fancying ourselves as exiled from every social intercourse, yet daily surrounded by those near and dear to us; as being incapable of giving oral utterance to our own thoughts, or of comprehending the interpreted thoughts of others, yet possessing the apparent organization and a reasoning mind for the free outlet and exercise of ideas; and as being destitute of all sense of hearing sounds, thereby existing in one perpetual silence. Still, even then, however exquisite the intensity of our imaginative powers, *our* ideas of *their* isolated monotony would be extremely vague and wide of the actuality.

Physically speaking, *the deafness here considered is an incurable malady*; and as it causes the additional calamity of *dumbness* (though not from any functional defect) it certainly behoves the hearing, by the adoption of some reparative or compensating process, to do whatever is possible for the *mental condition* of those of the community who may be burdened

* Ecc. Polity, Book i.

with this life-long misfortune. Ingenious men in our own and other countries, knowing the human mind to be a quality of the soul by which it understands, without being dependent upon matter or any particular function but the brain, have long since practically demonstrated, that in itself the conformation of the mind of an uneducated deaf and dumb child actually differs in no one respect from that of an uneducated hearing child: that he is endowed with the same possibility of attaining knowledge—susceptible of the same passions and feelings—animated by the same likes and dislikes—and influenced by the self-same impulses of nature. They have, moreover, proved that, in regard to good or evil and the spiritual life to come, he is an accountable being, with full possession of all the intellectual qualifications and attributes of mankind, only in a torpid or undeveloped state. A systematic education, judiciously administered and efficiently carried out, will, as it were, not only germinate this mind, but rouse these individual faculties into action, and tend to train both it and them in such a manner as will rescue this benighted child from the dark cimmerian existence in which he normally dwells, and place him side by side of ourselves—the hearing—in the bright dawning of human intelligence and reason.

CHAPTER I.

AN HISTORICAL SKETCH OF THE DEAF AND DUMB.

It is almost superfluous for us to remark, that there have been deaf and dumb persons from the very earliest ages of the world. But the few allusions handed down to us about them are singularly meagre and imperfect. In the Scriptures reference is first made to them in the 4th chapter of Exodus, at the 11th verse: '*And the Lord said unto him, Who hath made man's mouth? or who maketh the dumb, or deaf, or the seeing, or the blind? have not I the Lord.*' The second direct reference to them is in Leviticus (chapter 19, verse 14), '*Thou shalt not curse the deaf,*' &c.; and there are similar allusions to them in Proverbs (xxxi. 8), Psalms (xxxviii. 13), and Isaiah (xxix. 18, xxxv. 5, 6). In the New Testament, the first mention of them occurs in the 9th chapter of St. Matthew, at the 32nd verse; and they are also noticed in the last six verses of the 7th chapter of St. Mark's Gospel.

In profane history, Herodotus is supposed to allude to one both deaf and dumb when quoting the anecdote of Atys, a young son of Cræsus. This youth, though accomplished in all other respects, was unfortunately 'dumb.' Every attempt had been made to cure his defect, even to specially consulting the Delphic Oracle; but all to no purpose. However, when the city of Sardis was besieged, a soldier, encountering Cræsus, was about slaying him, when the young prince (struck with anxiety for his father's life), cried out, '*Soldier! spare the King!*' and henceforth

continued to speak and understand as other men. Whether he was actually *deaf* as well as *dumb* history does not tell us. It would seem from the account Herodotus gives of him, that he only suffered from some impediment in the voice—probably a striction of the chordæ vocales, or one or other of the causes for dumbness without deafness which we shall have to dwell upon in another chapter. Under any circumstances it must not be accepted as an instance of spontaneous gift, or even recovery of speech in a person (actually *deaf and dumb*) while labouring under the influence of highly exciting fears. Aristotle, of Stagira, casually refers to the deaf and dumb, as likewise does the elder Pliny; but they both, philosophically, say no more than that in consequence of being deaf, they are also dumb. They do not go into the cause of their infirmity, nor dwell in any way upon the merits or demerits of their condition.

It is supposed the stern and utilitarian Spartans doomed all deaf and dumb children to death, and compelled their parents to cast them, with the sickly and deformed, into the fetid caverns of Mount Taygetus. The laws of Solon allowed neither the insane, nor idiots, nor the deaf and dumb, to hold any kind of property, even when bequeathed to them by will.

The Romans looked upon them as the scoria of mankind. They placed them without the pale of human fellowship. They allowed them to possess no kind of property. They forbade their seeking redress or giving evidence, for or against, before any tribunal. They were forbidden to be employed in any offices, excepting those of the most revolting and degrading nature. The framers of the famous Justinian Code, notwithstanding their introduction of many excellent and civilising rules of law, condemned them to one ignominious state of imbecility, as regards nearly all the common affairs of life. Up to the time of Henry III., no reference was made to them in the laws of

this land at all. And even in that monarch's reign the legislature (in entitling the crown by prerogative to the care of lunatics and idiots) only condescended to notice the deaf and dumb as *victimes de la fatalité, frappées du courroux céleste*, to be legally associated with persons incapable of the management of affairs, and not worthy the same protection as was extended to other subjects of the realm.* In fine, for many centuries the popular sentiment was, that they were *not* of 'the great tree of humanity, as springing from the same root from the hidden depths of eternity.' They were consequently precluded from every means that would have conduced to the least palliation of their unhappy destiny. In the feudal ages, while governments ignored them as beings hardly human, their own parents—with reflex abhorrence—deemed them branded slurs upon their escutcheons and honour, and often had them secretly destroyed in consequence.

Thus, through ignorance of and indifference to their actual nature, thousands of these poor afflicted *human beings* have had to drag out their weary pilgrimage of life, neglected, despised, rejected of men, and shut out from every impulse of sympathy. Thus degraded to the level of swine and oxen, thousands of them have crept in mental darkness through a strange and unkind world 'dull and comfortless' to the grave.

It is related of St. Augustine, that previously to setting out on his mission to Britain, in A.D. 595, he considered it incumbent to seek an audience of the pope (Gregory I.) respecting the manner in which he was to act towards those whom he might find

* The present laws of England recognize the educated deaf and dumb in the same light as persons sound in all their faculties, and capable of managing affairs. They can legally marry, acquire, control, will and bequeath property, irrespective of its nature, as other persons. But the *congenitally blind deaf and dumb* are still considered to be *Idiots*, and therefore incapable of the management or control of any property whatever.

deaf and dumb, as he believed it to be 'utterly impossible to lead such persons to the slightest knowledge of the Christian religion.' History is silent as regards the pope's reply; but we surmise (if he was not totally incapable of giving any) that his advice was of no intrinsic service, for no further allusion to the subject is made by the good bishop.

The venerable and learned Bede (who died A.D. 735) records a case of deaf dumbness in a youth who had been artificially taught to speak, a circumstance, moreover, which he looked upon as a sort of miracle performed by the lad's ingenious instructor.

Between seven and eight hundred dark and unproductive years after the decease of Bede, a person named Rudolph Agricola (who died in 1485) had some idea of the possibility of education being given to the deaf and dumb: and he mentions the case of a youth whom he had himself taught to read and write.

In 1576, the Italian astrologer, Jerome Cardan, took the subject into serious consideration. Although difficult, he acknowledged its feasibility, and made observations upon it which are said to be deserving the attention of teachers even at this day. A Benedictine monk, in Spain, living about the middle of the 16th century, named Pedro Ponce de Leon, is the first eminent practical teacher of whom any authentic record exists. He most successfully educated, among others of the Spanish nobility, two brothers and a sister of one of the constables of Castile, as well as a son of the then governor of Aragon. As a philosophical teacher, he must have been very expert; for, not confining his pupils to the mechanical accomplishment of ordinary writing of thoughts and the reading of language, he taught them besides to converse in various languages, to reason upon philosophical subjects, and become clever men and accomplished women.

Some few years after his decease, Jean Pablo Bonet, or Bonnet, also a Spanish priest, educated another member of this same house of Castile—a child, who, however, did not become deaf till the age of four years. Much of this teacher's information was, no doubt, obtained *vivâ voce* from the friends of his pupil, who would naturally like to see continued that eminently successful system which Ponce de Leon had invented and used either in the education of themselves or their immediate relatives. This same system, moreover, Ponce had laid down in a manuscript, deposited in the library of his own monastery, at Ona. We have, therefore, very strong reasons for imagining that the work published in 1620—upon which the existing French and American systems of deaf-mute education are based—originated in Ponce, but which Bonet, profiting by the prevailing ignorance of the subject, extensively modified and enlarged, and then presented to the world, with his own name on the title-page, as the author.

About the year 1604, some worthy divine adopted a poor deaf and dumb child to attempt his education upon a purely religious basis.

In 1690, Dr. Amman, a Swiss physician, residing in Holland, took the subject into consideration, and succeeded in instructing a young lady at Haarlem in the Latin and Dutch languages. He also published some works (*'Surdus loquens,'* in 1692, and *'Dissertation sur la Parole,'* in 1700), which are still quoted as authorities in Holland and some parts of Germany.

In England, the first to call attention to the deaf and dumb was one John Bulwer, in a work (*'Philocophus, or the Deaf and Dumb Man's Friend,'*) published in the year 1648. In this work he proposed a method of communicating by the hands, and recommended the establishment of special schools. But his ideas, though highly ingenious, were by no means philosophical or scientific, as he speaks of their ability to

acquire a knowledge of music through the vibration of sonorous bodies.*

In 1659, Dr. William Holder, an English clergyman, and a Fellow of the Royal Society, educated a deaf and dumb youth, and also published, in 1669, a work ('Elements of Speech') in which he fully considered the subject of articulation and *hand-language*, as substitutes where the ordinary *oral-language* was wanting.

In 1662 there was residing at Oxford a Savilian professor of geometry, named Wallis, who was not less famous for his attainments in the exact sciences than for his talents in the art of deciphering secret writing and singular knowledge of the deaf and dumb. Two of his pupils (Whalley and Popham) were introduced to Charles II., and in October 1698 he published his mode of instructing them in the 'Transactions of the Royal Society.' Many of his ideas were, however, surreptitiously obtained from Dr. Holder's treatise, which he had seen in the manuscript. He was acquainted with an amateur teacher, named Dalgarno, and was familiar with Bulwer's work. He had also, doubtless, heard of that deaf and dumb nobleman (Bonet's pupil), then living in Spain, '*who could speak with his eyes.*'—In 1718 a German, named Raphel, published a method

* The insusceptibility of the deaf and dumb to the least idea of regulated sound, renders them utterly incapable of acquiring any knowledge of music. What has been said by a naturalist of the *Molluscs* is equally applicable to them: 'They hear nothing of the marvellous inflections of speech, the tremulous tenderness of affection, the harsh trumpet-tones of strife, the musical intonations of mirth. . . . Deaf as the deafest adder they will remain, charm we never so wisely, Equally insensible must they be of music. Beethoven's melodious thunder, Handel's choral might, Mozart's tender grace, Bellini's languorous sweetness are even more lost on them than on the sympathetic dowagers in the grand tier, who chatter audibly of guipure and the last drawing-room, while Grisi's impassioned expression, and Mario's *cantabile* are entrancing the rest of the audience.'—*Blackwood*, Sept. 1857.

which he had pursued in educating three deaf and dumb members of his own family. In 1735, a Spanish or Portuguese Jew gave private lessons in Paris to the deaf and dumb members of the upper classes, under bonds of great secrecy; but his ingenious system was nothing more than the system of Bonet, modified in a few of its details.

In the course of the same century, one Van Helmont published a highly ingenious but impracticable method; and Heinick, in 1778, founded, under the auspices of the Elector of Saxony, a *special* school at Leipsic, being the first of its kind over which government patronage was extended. He was a warm advocate for articulation, or artificial speaking; and most of *his* followers in Germany still continue that branch of education.* But about 1754 or 5 the justly celebrated Abbé de l'Épée did more to benefit this forlorn class than any of his predecessors. It was he who first awoke throughout Europe that sublime spirit of administering sympathy for the condition of the *deaf and dumb poor* which has since dawned upon nearly every civilized land. One of the great ends of life, in the estimation of this good man, was that of diffusing blessings among our fellow creatures; and, perhaps, no one has ever more meritoriously proved it than he himself did towards the helpless deaf and dumb. Two sisters, both so afflicted, were resident at Paris, in a street opposite a monastery of the Fathers of the Christian Doctrine. A Father Vanin, one of the brothers of that venerable community, attempted, without any particular method,

* Institutions for the deaf and dumb poor were first started in:—

France	in 1755	Spain	in 1805
The German States	„ 1778	Russia	„ 1806
Austria	„ 1779	Scotland	„ 1810
Italy	„ 1786	Ireland	„ 1816
Prussia	„ 1788	United States	„ 1817
Belgium and Holland	„ 1790	Portugal	„ 1824
England	„ 1792	Canada	„ 1848

to make some compensation for their want of hearing and speech; but death removed him from his labour of charity before he had attained to any degree of success. The widowed mother of these poor girls much lamented the loss of so good a friend, naturally imagining that no one else could, or would, take so much interest in her unfortunate children's welfare. A fortuitous circumstance, however, shortly after occasioned the Abbé de l'Epée to call upon her. She was from home, and while waiting for her return, he observed the two young girls occupied at needlework, and that they took no notice of his questions to them. He little dreamt that they had been doomed by nature never to hear nor speak. When their mother returned everything was explained to him relating to their condition, and, with his heart glowing with the warmest instincts of pity, he went home full of thought how he could supply the place of his deceased *confrère*, and train these afflicted girls in the way of life and the path to Heaven.*

'Believing,' says this noble-minded man, 'that they would live and die in ignorance of true religion, if I did not attempt some means of teaching them, I was moved with compassion for them, and requested their mother to send them daily to my house, that I might do whatever I found possible to do for them.' With

* These remarks upon the Abbé de l'Epée have been compiled from a Memoir of him by M. Bébien and from a Lecture delivered in London in 1815, by the Abbé Sicard, at which Massieu and Le Clerc, two pupils of the Lecturer, attracted very considerable notice by their able answers to certain metaphysical questions. Massieu died in 1846. Le Clerc is still living in America, to which country he emigrated some years ago, to fulfil an engagement in the New York Institution for the deaf and dumb.

De l'Epée had, of course, no established system to work upon when he commenced the education of these poor girls. He followed out a few undigested ideas of his own, which he thought rational and simple. Having eventually heard of a work (Bonet's) upon teaching the deaf and dumb to speak, which, besides contained a manual alphabet and much useful information, he purchased it, and adopted steps for the speedy accomplishment of the

generous enthusiasm, through the sheer impulses of 'genius and humanity,' religious zeal and beneficent charity, he commenced his task. He went, we believe, direct to Spain. He studied and acquired the language of that country, and familiarised himself with the contents of Bonet's work, and the opinions of such men as he found to be then teaching the deaf and dumb there. Possessing the key of knowledge, he returned to Paris, opened a school at his own expense for all the indigent deaf and dumb in that city, besides adopting the two poor girls to whom we have alluded.

Some few years after its establishment his little school received the patronage of government, and we are pleased in being able to record that, although France has often since been disturbed by internecine quarrels, anarchy and confusion, and the streets of Paris blocked by revolutionary barricades, where even educated deaf and dumb men have fought and bled, the ruling powers have always thrown the ægis of protection over it. De l'Epée died in 1789, but his method (always, by the way, an indifferent one) was ably carried out, and *very considerably altered and improved*, by his accomplished successor, the Abbé Sicard. The Abbé Sicard, whom he had trained and placed out as an instructor of the deaf and dumb at Bordeaux, was a man equally enthusiastic and self-denying in all matters relating to the deaf and dumb.

Spanish language, to understand it. The work was entitled '*Arte para enseñar á hablar los Mudos.*' De l'Epée afterwards wrote a little work (*L'art d'enseigner à parler aux Sourds-muets de naissance*) upon deaf and dumb tuition, based upon that of Bonet, and the two treatises of Dr. Amman.

He inherited an income of about £550 sterling per annum, of which he *allowed eighty pounds only for his own person*. He considered the residue as the patrimony of the deaf and dumb, and to whose use it was always faithfully applied. Moreover, he never received the slightest pecuniary aid for his services to the noble institution which he founded, and over which he had control for so many years.

He was an accomplished scholar, and the author of several learned and ingenious works, which gained the high approbation of Dugald Stewart, for their perspicuity and rationality. That great man entertained a very high opinion of Sicard's abilities as a practical philosophic teacher, and even considered him superior, in all respects, to the distinguished Braidwood. 'Sicard's aim,' he says, 'was of a different and a far higher nature: not to astonish the vulgar by the sudden conversion of a dumb child into a speaking automaton, but, by affording scope to those means which nature herself has provided for the gradual maturation of our intellectual powers, *to convert his pupil into a rational and moral being.*' It was in the life time of Sicard that *special* public schools* for the indigent deaf and dumb were first established in Great Britain.*

* The Abbé Sicard, during the cruel infatuation of the French Revolution, became the object of a domiciliary visit. He was thrust, with yells and execrations, into the streets, and only rescued by a friend at the moment the javelins of the mob were raised to be plunged into his heart. He died in very straitened circumstances in the year 1822. Both De l'Épée and Sicard were men

'Who never wearied to impart
Blessings to their fellow men.'

Without fee or reward, their useful lives (like that of Jean Baptiste Joseph Languet, the generous founder of the *Maison de l'Enfant Jésus*, in Paris), were one distinguished course of self abnegation and benevolence to others. They devoted their wealth, their talents, their ecclesiastical preferment, and the service of their lives to acts of benign charity; and, at the close of their career, modestly hoped that a grateful posterity would mefely accord them the guerdon of praise, *as an incentive to others to do likewise*, and continue those exertions which they had made to lessen the burden of some of the sufferings of the human race.

CHAPTER II.

PHYSICAL CONSTITUTION. — DEAFNESS AS A CONGENITAL DISEASE.

But who I was, or where, or from what cause, knew not.—*Milton.*

WE well know the human body is not less to be admired as a machine, wonderful and complicate in all its parts, than as a contrivance generating its own peculiar and spontaneous motive power, and ministering unto itself whenever or wherever illused or impaired in its functions. But there are numerous accidental causes, slight neglects, trivial faults, unheeded may be in their origin, which impede the operations of these same functions—which disturb their organism and give rise to hydra-headed diseases that baffle the skill of man, and test the very evidences of science itself.

Among these manifold causes is that called *Deafness*, or inability to hear sounds, which has now long engaged attention, and which both physiologists and pathologists mutually consider one of the most inexplicable in nature.

This disease (or rather defect) is, moreover, a permanent one, of two kinds, and it has been classed, for the sake of distinction, under the appellations of *Congenital Deafness* and *Accidental Deafness*.

There have been several reasons assigned for the appearance of congenital or birth deafness in families, of which the three principal and most plausible are: 1. Consanguinity of the parents. 2. Fright and

morbid mental impressions on the part of the mother during the period of gestation, as the *physiological* causes, and 3. Organic defect, as the *pathological* cause of the malady.

SECTION I.

CONSANGUINITY OF THE PARENTS.

There is some certain reliance, we think, to be placed in this conjecture, as, in numerous instances of birth deafness within the range of our own knowledge we have found the parents were in some degree, but generally as *first cousins*, related before marriage. A striking illustration of the ill effects of such marriages has also been noticed by Dr. Boudin (at a late sitting of the Academy of Sciences in Paris) of two brothers, in perfect health and well constituted men, who had married two sisters, their *cousins-german*. The elder brother has had several children, *one of whom is deaf and dumb*. The other brother has had six children, the first, third, and fifth of whom can hear, *while the second, fourth, and probably the sixth (an infant) are deaf and dumb*. Besides, it is well-known that the union of near relationships, that 'in-and-in' marriages of persons of one collateral stock or locality even are very frequently attended by a certain degeneracy in the offspring of such marriages, and that this degeneracy—if the community be not sometimes disturbed by war, immigration or some other extrinsic means—gradually increases, until cretinism (as applied to goitrous subjects), scrofula, idiocy, deaf-dumbness and a mournful catalogue of congenital evils are generated in it. There is an Oriental tradition that Cain and Abel, the firstborn sons of Adam, had each a twin-born sister. As it was essential for them to intermarry with their sisters, Adam wisely proposed, as being more natural and

conducive to healthy offspring, that each brother should marry that sister the least seemingly related to him. To this sensible proposition Abel is said to have most readily consented, but Cain contemned it, and, to gain his ends, in a fit of jealous anger, shortly after slew his brother. The laws of the Pentateuch required that no man or woman should '*approach any that is near of kin,*' although one special exception to this, for the sake of some inheritance, was made in the case of Zelophehad's daughters, who were all married to their first cousins, (Numbers xxxvi. 11). Pope Honorius II. proscribed marriages between *all* relations till after the *seventh* generation, and those who had married within that degree were ordered by him to put away their wives. The natives about Cape Palmas, west of Africa, have established among themselves most stringent laws for the prohibition of marriages among connections of the slightest degree of relationship: and we have learnt that the paucity of any innate physical or mental diseases among them, in consequence, is very remarkable as well as conclusive as evidence.

SECTION II.

FRIGHT, ETC., DURING GESTATION.

This conjecture, as regards congenital deafness, has been much disputed, and it still, we believe, remains an undecided question. That the influence of certain psychical impressions upon the nervous state of a woman, during this important period, *does* affect the offspring, while *en ventre*, has however been ascertained in a sufficient number of instances to justify some established opinion regarding it; e. g. a woman in the *fifth* month of her pregnancy attended some religious services for the benefit of the deaf and dumb, and *heard* a deaf boy artificially utter the

Lord's prayer. This simple circumstance created a singular and indelible impression upon her mind that her own child, when born, would be like that boy—a presentiment that, alas! proved too true, as she eventually gave birth to a *deaf child*. During the seventeenth century it was a common practice for newly married women to consult astrologers upon the prospective nativities of their offspring. By a system of careful calculations, based upon questions indirectly asked of the women, these wily men used to foretell that they would give birth to children under certain constellations, which they pretended would materially influence their lives, &c. To such therefore as had been told they would give birth to children under *Cancer*, *Scorpio*, or *Pisces*, which they had named the *mute* signs of the zodiac, they intimated the probability of their finding the firstborn *deaf and dumb*. And the continual musing upon this cruel prediction often caused many sensitively organised females to actually produce children so afflicted. Gross superstition also maintains its hold on the credulity of the people even in this present day, and young women in the provinces are told to expect their firstborn child to be deaf and dumb, if they inadvertently attend the church at which their banns of marriage are being proclaimed, or happen to be saluted by a deaf and dumb person when returning from the marriage ceremony.

Nine out of every ten mothers of congenitally deaf children attribute their being so to powerfully operating causes upon the mind during gestation. But *how* these impressions of disgust or fear, at the sight or thought of a poor afflicted fellow creature who craves the kindly glance of pity rather than the morbid recognition of terror, should so disturb the mind, and influence the foetal development, are matters hidden in the deepest recesses of nature's arcana, and beyond the range of man's comprehension.

Dr. Little, in his Essay on Club-foot, has related a singular and often quoted instance of a lady who (when *enceinte*) was accosted by a beggar with a club-foot, for whom she felt some considerable pity. Although she did not attach to the circumstance so much of that importance usually attributed by mothers, she was in due course delivered of a child with a club-foot, quite similar to that of the beggar who, a few months before, had excited her commiseration.

It also not unfrequently happens that the birth of one deaf child is followed by others similarly afflicted, as if the defect of the former one had so wrought upon the mother's nervous susceptibility, as to cause, in subsequent births, that very result which she so naturally dreaded and wished to avoid.

SECTION III.

ORGANIC DEFECT.

The two preceding physiological suppositions, strongly as they may be supported, must however, in every way become subservient to this, the true pathological one—organic defect being undoubtedly the chief cause of all cases of congenital deafness.*

The following extract from the Irish census returns for 1851, will afford to a general reader the most comprehensive view of pathological discoveries, in respect of this obscure subject.

‘The organ of hearing has been found defective in a sufficient number of instances, where dissections have been made, to warrant the belief that in every case of congenital deafness the deficiency is owing to some lesion, either in the mechanical or sensitive

* *Physiology* has relation to the constitution of a living body; *pathology* to the diseases affecting it.

portion of the auditory apparatus or the brain. The following abnormal appearances have been remarked:—total deficiency of the external ear¹—or of the auditory tube, the *meatus*,² ending in a *cul de sac*—adventitious growths or deposits filling up the cavity of the middle ear, the eustachian tube,³ mastoid cells,⁴ and other openings of the tympanum⁵—deficiency of the *ossicula*,⁶ or small chain of bones within the tympanum—ankylosis of the ossicula—want of the *fenestra rotunda*,⁷—partial or complete deficiency of the spiral canals of the cochlea⁸—preternatural enlargement of the aqueduct of the *vestibule*⁹—partial or complete obliteration of the semi-circular canals, and unnatural solidity or hardness of the *temporal bones*¹⁰—thickening or ossification of the various membranes, and more or less defect of the several parts of the *labyrinth*,¹¹ ‘or internal ear,—as well as atrophy or wasting, or total absence of the auditory nerve. When the brain itself is much affected paralysis or imbecility is also frequently present.’ *

Dr. Itard, an able French physician and anatomist, entertained the opinion, that deafness arose from paralysis of the labyrinthic nerve, in those cases

* 1. The auricle, or visible part of the ear: this rarely occurs. 2. The outward passage of the ear. 3. A tube extending from the cavity of the middle ear to the back of the mouth, immediately behind the *uvula*. 4. These cells enlarge the tympanum, and are thought to reverberate and strengthen it. 5. The drum of the ear. 6. This chain of ‘little bones’ consists of four, contained in the cavity of the tympanum or drum; they are named the *malleus*, or hammer; the *incus*, or anvil; the *os orbiculare*, or round bone; and the *stapes*, or stirrup. They bear some slight resemblance to the names given them. The *os orbiculare* at birth is a distinct bone, but it becomes affixed to the *incus* in adults. The mechanism of this series of bones transmits the vibration of the tympanic membrane. 7. Designed to establish communication between the *tympanum* and *cochlea*. 8. So called from its resemblance to a snail shell. 9. A portion of the labyrinth. 10. Situated at the sides and base of the skull. 11. So called from the intricacy of its parts; it really consists of the vestibule, the semi-circular canals, and the *cochlea*. Any diagram of the human ear will show the *locale* of these respective parts.

where no other perceptible defect could be traced. Dr. Itard was for 30 years professionally connected with the Institution for the deaf and dumb in Paris, and 'the main object of his learned investigations was *congenital deafness*. He devoted his energies for a series of years to fruitless researches after its causes and to unsuccessful attempts in its cure,' and, at the close of his career, had no confidence whatever in the efficacy of either medicine or surgery when applied to the treatment of it. The late Mr. Pilcher, in his excellent treatise on the ear,* states, 'that the majority of instances in which the organ of hearing of *Sourds-muets* have been examined, have not presented vitiations of form, which would account for the loss of function. Of the five cases published by Mr. Cock,† although they all furnished evident and well-marked traces of *scrofulous* disease, yet two only presented malformations, which that excellent anatomist could consider cognate, and as the cause of deafness.'

The extraordinary hardness of the skull in the region of the hearing organs—and the smallness of the diameter of the *meatus externus*, or tube leading to the interior of those organs, will always make it impracticable to carry out any satisfactory researches in relation to this mysterious insensibility of the ear in *living* subjects: and as regards catheterism—recommended and practised though it be—it may be reasonably doubted if such a process has at any time been attended with any material benefit to the *congenitally deaf*. Probing may be highly advantageous in the removal of cerumen or *mucus*, as well as for the dilation of strictures in the ear, but it is certainly unserviceable in searching for a defect, which even a careful *post-mortem* examination so frequently fails to discover.

* *The Structure and Diseases of the Ear*. Prize Essay, 1838.

† *A Contribution to the Pathology of Congenital Deafness*, by Edward Cock, Esq. Guy's Hospital Reports, No. 7, Oct. 1838.

CHAPTER III.

DEAFNESS AS AN ACCIDENTAL DISEASE.

ACCIDENTAL, or after-birth deafness, is applied to that kind which has its origin in diseases where, by inflammation, ulceration, paralysis, or other phase of character, the sensibility, or mechanical arrangement of the ear is either deadened or destroyed—such as scarlatina, typhus, small-pox, measles, epileptic convulsions supervening on dentition, and the various forms of cerebral affection. More children now become deaf through scarlatina than from any other acquired disease. And this may be frequently attributed to bad nursing and disregard of medical advice when the fever is upon them. The violent inflammation of the throat in this particular malady sometimes simultaneously extends along the eustachian tubes into the vicinity of the tympanum, &c., of each ear, causing, in the progress of its irreparable ravages, infallible destruction of the *membrana tympani*, severance of the chain of ‘little bones’—which often leave the ears in the attendant or ensuing otorrhœa, and consequent insensibility of all power of hearing sounds again. So corrosive, moreover, are its effects that the cartilage of the outer or visible portion of the ear is sometimes perforated in several places. Although not hitherto noticed in the writings of Drs. Greenhow, Jenner, Trousseau, and other authorities on diphtheria, we are strongly inclined to think that this formidable disease is also one of the occasional proximate causes of permanent deafness:

as well as severe colds, hooping cough, paralysis, abscesses on the head, sudden frights, serious falls, partial drowning, severe blows, thunder storms, the concussion of heavy ordnance, &c.

Density of population in districts notorious for the continued prevalence of zymotic diseases—such as malignant forms of typhus fever, scarlet fever, &c.—is one of the fruitful sources of deafness.* We have, therefore, hopes that the progressive spirit of science, and the exertions of modern sanitary boards to introduce effective sewerage, wholesome water, and free ventilation, will materially tend to the improvement of these places, and mitigate, if not altogether remove, these pernicious causes of a truly lamentable and intractable effect. ‘The importance of this question cannot be exaggerated when we reflect that, according to modern pathology, the entire class of epidemic and infectious diseases essentially are caused by the introduction from without of putrescent particles, which, meeting in the blood with this altered and partially decomposed matter, act upon it by a catalytic process, and thus light up the morbid action. It is in this manner alone that an intelligible idea can be formed why infants and children, whose vital processes are so active, and into whose blood a corresponding amount of *débris* is cast, are so specially prone to epidemics, to scarlatina, to measles, and so forth. In thus proceeding from physiology to pathology, the practitioner is enabled to form a right conception of the supreme importance of preventive medicine; for knowing that decomposing matters, however generated by the overcrowding of human beings, by cesspools, by defective drains, by foul leakage into wells (a thing of daily occurrence) constitute the *fomes* of fever, of cholera, and of a mul-

Of every 100 deaf mutes resident in the low unhealthy parishes of large towns, 50 at least have acquired their calamity through these diseases and local circumstances.

titude of diseases and ailments, often erroneously attributed to other causes, he has within his power, may we not affirm, on the evidence of recent experience, not only greatly to diminish these scourges of the ignorance and prejudices of men, but even to annihilate them. The value of this question will appear when we recollect that of the whole mortality of England in the eight years, 1848—1855, including therefore the cholera epidemics, amounting to 3,296,101, or 412,011 annually, the deaths from zymotic—that is, preventable—diseases amounted to 772,571, or 96,591 per annum. For myself, I must say, although fully estimating the great improvements introduced into modern practice, I look to the advance of sanitary science rather than to the treatment of disease for the extension of human life, which in future and more enlightened ages may, with some obvious exceptions, even reach the period assigned to it by the Divine Creator.* Deafness—about 60 congenital to 40 per cent. accidental—extensively prevails also in marshy districts, where is generally resident a class of ill-fed and very poor people.† The deep mountain valleys of Switzerland, containing always a stagnated and humid atmosphere, produce deafness, goître, idiocy, and consumption, the prominent characteristics of cretinism, in a frightful proportion (1 in every 200) to the general population.

Deafness, moreover, is one of those diseases traceable to abused constitutions in progenitors, and which, ‘by good physical and moral education,’ could be greatly lessened. ‘The first law that must be

* Introductory Lecture at St. Thomas’s Hospital, Oct. 1, 1860, by R. D. Grainger, Esq., F.R.S.

† Of 255 cases, inhabitants of large towns, we ascertained that 170 were born deaf, and that 85 lost their hearing by sundry zymotic, and therefore preventable, diseases. In villages we found out of 318 cases, that 236 were born deaf, and that only 82 had lost their hearing by acquired causes.

obeyed to render an organized being perfect in its kind, is, that the germ from which it springs shall be complete in all its parts, and sound in its whole constitution. If we sow an acorn in which some vital part has been destroyed altogether, the seedling-plant and the full-grown oak, if it ever attain to maturity, will be deficient in the lineaments which were wanting in the embryo root. If we sow an acorn entire in its parts, but only half-ripened or damaged by damp, or other causes, in its whole texture the seedling oak will be feeble, and will probably die early. A similar law holds in regard to man.*

Man is responsible for nearly all the ills affecting his race, and it is now a thoroughly established axiom that unhealthy parents invariably produce unhealthy children. Any pernicious causes, which enervate or destroy the physical efficacy, are transmitted by man, in some latent manner, to his unoffending offspring, and are productive of a sad and lengthy catalogue of physical and mental diseases. The subtle poison of these entailed diseases is again handed down to succeeding deteriorated generations, as a sort of hereditary tax, giving birth in the transmission to scrofula, phthisis, idiocy, and that sad disease where

Nature, being oppressed, commands the mind
To suffer with the body,

besides many other direful calamities, without, perhaps, the least superinducing agency on the part of those so afflicted. It is highly essential that man should dwell more upon the physiology of his nature, and devote more attention to the natural operations of causes; for surely it cannot have been ordained that he, the superior and most wonderful work of all creation, bearing, indeed, the image of his Maker, should, on account of man's original sin, or even for the purpose

* Combe's *Constitution of Man*, chap. ii.

of manifesting the works of God,* be *designedly* subject to so many diverse forms of disease any more than are the lower animals, which, naturalists tell us, seldom or never experience any of the effects of ill-organization, at least when in their indomesticated state.

Although deafness—like insanity, epilepsy, and other chronic affections—is, to some extent, subject to the laws of hereditary transmission, it can hardly be comprehended under the general head of *family diseases*. A hereditary disease, it may be observed, is understood to be one to which the parents were subject, and which they communicated to their children *before birth*. The disease is again communicated by these children to *their* offspring, and so on consecutively to each succeeding generation, until either the disease itself dies out, or the family in which it exists becomes extinct.

Hereditary and innate diseases convey two widely different significations; for while the former is applied to a malady affecting one or other, or both of the parents, as insanity, which will not probably betray its presence till some years *after birth*, the latter always has reference to a malady with which neither of the parents may have been affected, but which is contracted in some mysterious manner by the child, *when in embryo, how or when*, who can tell? Of this kind of disease is that deafness forming the topic of this treatise, and which in its nature is entirely distinct from cases of nervous or temporary deafness which may arise from impaired general health, and many other exciting causes foreign to the object we have in view.

‘Authors do not agree,’ says Dr. Steinau,† ‘in their opinion as to whether it is merely the disposition to a disease or the disease itself which is

* *Vide* St. John ix. 1, 2, 3.

† *Essay on Hereditary Diseases*, London, 1843.

hereditary ; and whilst some maintain that it is only the disposition to the disease which is always communicated by the parents to their children, others are of opinion that in many cases the disease itself is inherited.' 'So far as this remark is applicable to deafness—although, as we have previously observed, it is *not* strictly a hereditary or family disease—we may state that deaf parents do have born deaf offspring ; thereby showing that the infirmity itself, and not the disposition to it, is communicated by them. When the parents are both innately deaf, it is exceedingly probable (although there are known exceptions) that their offspring will be naturally deaf too. And if these children should grow up and marry others (also naturally deaf) *their* offspring will probably be similarly afflicted, and the defect or disease be existent in every succeeding generation. But, if two persons married, whose hearing may have been lost through disease or accident, and no ties of sanguinity, *struma*, or previous disease existed in their families, the chances then are that all their children would hear perfectly. Or if, as is often the case, a naturally deaf person, or even one deaf from disease or accident, should marry a sound person not related, and in whose family no *struma* or previous disease could be traced, there would be every probability of the offspring being all sound ; yet such marriages would be, and are, apt to introduce predisposition, and prove the first step—it may be in a transitive form—for the reappearance of deafness in succeeding generations.

When deafness is found to *run* in families, it is most frequent on the maternal side. Some instances of this peculiarity are very singular. We are intimate with the case of two young men who are naturally deaf, and cousins by relationship—their mothers being sisters in a family of five, all hearing perfectly, but the offspring of a deaf and dumb mother. She was one of a family of eight, of which number four were

deaf. In the *first* generation it is supposed the parents were perfect in all their faculties ; in the *second* generation, out of a family of eight, four were deaf and dumb ; in the *third* generation one of these four married a hearing husband, and had a family of five females all sound ; in the *fourth* generation two of these five sound females married sound husbands, yet each one had a deaf child. This extraordinary and mysterious malady here betrays itself in alternate generations, and always on the maternal side. Some foetal irregularity would seem to have occurred to the offspring of the first generation, which created a disposition to deafness in the second, which became dormant in the third, but ripened again into a specific disease in the offspring of the fourth generation.

It will, however, betray its presence on both sides, as is exemplified in the following case which appeared in a report of the Glasgow Institution for the year 1855. A progenitor had two hearing daughters, by one of whom he had two great-great-granddaughters, both deaf and dumb, the daughters of a hearing great-grandson, and two deaf and dumb great-great-grandsons — the children of a hearing great-granddaughter. By the other daughter he had two great-grandchildren — deaf and dumb — the children of a hearing granddaughter. He had also by a hearing son four deaf and dumb great-great-grandchildren — the children of a hearing great-granddaughter. A brother of the progenitor has had by two hearing grandsons eight deaf and dumb great-great-grandchildren and one great-granddaughter, who is the mother of one of the great-great-grandchildren. One of the grandsons had also two hearing daughters who married : one of them had five, and the other two deaf and dumb children. The grandmother of this grandson's wife had a brother who had a deaf and dumb son, and three deaf and dumb great-great-grandchildren, descended from that son — so that in this branch of

the family deafness *is hereditary* on both sides. The other grandson had a daughter, deaf and dumb, who is the mother of a son, deaf and dumb, mentioned above.

One hundred and ten cases of deafness are recorded in the Seventh Report of the Hartford Asylum, United States, as coming from ninety-five families — twenty-eight of which contained more than one member deaf and dumb.* Two sisters of this number had had fourteen relatives deaf and dumb. The whole sixteen being descended from the same great-grandmother, yet this common ancestress, *all* her children and *all* the grandchildren, possessed perfect faculties and sound constitutions.

In some families all the members are deaf and dumb. In other families all the children. In some the parents only. In other cases half of the children, and if there be twins among them one will be probably sound and healthy, the other deaf and delicate. In some cases all *but one* are so afflicted, and that one the youngest, as if the disease had, so far as that generation was concerned, died out.

If minute enquiry could be made into each individual case of deaf-dumbness doubtless much interesting and valuable *data* would be collected upon this peculiar defect, *data* not only valuable and interesting, as regards the statistical phenomena obtained, but serviceable also in tracing out, and examining into, the many latent sources of innate and acquired diseases.

There is every reason for knowing that deaf-dumbness prevails among, and is common to all nations: but from the circumstance, that it does

* We have seen a list of thirty-four families in which there were eighty-seven cases of inborn deafness; and the Report of the Metropolitan Institution still gives the often quoted table of twenty-three families, having the astounding number of one hundred and five deaf and dumb members.

not, like blindness, directly appeal to the sight, it is liable to be overlooked. Hence the infrequency of allusions to the deaf and dumb by travellers and missionaries in foreign lands.

CHAPTER IV.

QUACKERY, AND DEAF AND DUMB CHILDREN.

See to thy golden shore promiscuous come
 Quacks for the lame, the blind, the deaf, the dumb ;
 Fools are their bankers—a prolific line,
 And every mortal malady's a mine ;
 Each sly Sangrado, with his poisonous pill
 Flies to the printer's devil with his bill,
 Whose Midas touch can gild his asses' ears,
 And load a knave with folly's rich arrears.

Rejected Addresses.

MANY persons, as soon as deafness in their children has been detected, foolishly have immediate recourse to one or the other of those notorious charlatans who, as Steel ('Spectator,' 444) wittily yet strongly observes, 'publish their great abilities in little brown billets, distributed to every passer-by; and who are to a man imposters and murderers.' These men have one panacea for all diseases, and infallible nostrums—surpassing even Nicholas Culpepper's—for every kind of human complaint. In cases of deaf-dumbness they generally commence a course of fruitless experiments, with blisters of a powerful and inappropriate nature, with injections of irritating acids, with useless embrocations, and, not seldom either, with imbibed medicines of the most abominable description. As may be imagined, not the slightest benefit accrues from, or can be effected by, these spurious remedies, and the poor helpless patients have their deafness increased, their constitutions irreparably injured, and many doomed to early graves, by their reprehensible treatment.*

* The late exposure and conviction of one or two of the most notorious of this class ought to be a *cave canem* to the public, and

There are some ordinary legitimate practitioners somewhat blameable in respect to the repeated experiments which they adopt in dealing with specific forms of actual deaf-dumbness. All cases of real deafness resulting from scarlet fever (when the virulence of the disease has unhinged and carried away all the *ossicula*) *are always incurable*; and the restoration of this chain, or the recovery of the hearing power without the presence of that chain in its compact state, is physically impossible. No mechanical contrivances, no therapeutical agencies, can then remedy the mischief which has been done to the ears by the disease. And we do not believe that any man can honestly and conscientiously affirm, that he has ever made a satisfactory cure of *actual deafness* in a child whose hearing apparatus has been so destroyed.

All the attempts to cure cases of congenital or natural deafness are always unsuccessful, and are, therefore, morally censurable. If a child actually stone deaf did regain its hearing through the treatment of any aurist, the whole world would speedily become cognizant of the circumstance, and render due homage to him who had wrought so beneficent a miracle upon one of his fellow creatures. In England, France, and elsewhere, men who were pre-eminent in their profession have all ably tested the possibility of restoring the hearing to the actually deaf, but always without the slightest approximation to any success; and it may be accepted as an indisputable axiom, that *neither decided congenital deafness, nor decided forms of acquired deafness can be cured by man*. All persons thus afflicted will, and must, continue so till that day comes when, in the words of Isaiah (chapter 29, verse 18), ‘*the deaf shall hear the*

deter them from placing either themselves or their children in their clutches. One little pamphlet shown to us treats of *effectually curing deaf-mutes ‘by means of nitrogenous medicines’*; and another purports to do the same thing by the use of certain *vapour baths*.

words of the book, and the eyes of the blind shall see out of obscurity and out of darkness.'

There has been a little controversy upon the subject of the increase or decline of deaf-dumbness, as well as upon the preponderance of congenital or accidental deafness.

With regard to the question referring to the increase or decline of this infirmity, we fear the paucity of statistical information just now will not enable any one to give more than a mere hypothetical opinion upon it. We imagine, however, that, like several other diseases, its ratio in this respect is dependent, in a great measure, upon fluctuation in the number of population, and the prevalence or infrequency of those zymotic diseases which indirectly engender it. M. Sægert, the inspector-general of the Institutions for deaf and dumb persons in Prussia, states, in a small pamphlet* published in 1856, that triennial inquiries were instituted by the Prussian Government a few years ago, which proved that deaf-dumbness had increased in that country to the extent of 2,391 in the space of eighteen years.

In Great Britain a considerable increase has also taken place since 1851; but still this increase is not such as to greatly disturb the average ratio of the deaf and dumb in Europe, which may be now computed at about 176,000, or 1 in every 1,560 persons.† The proportion between those who are deaf

* Das Taubstumm-Bildungswesen in Preussen.

† Before the year 1851 no inquiry had ever been publicly instituted for ascertaining the number of the deaf and dumb in Great Britain. On the publication of the result of that inquiry, it was discovered that 17,300 deaf and dumb persons existed in the United Kingdom, out of a population of 27,511,801. Even this astounding number the Census Commissioners considered understated, from the immense difficulties they had to encounter from the ignorance and prejudices of the people, as well as from their own embarrassment in ascertaining the deafness of infants.

In 1861 another census was taken of the deaf and dumb. In this instance about 20,000 persons, out of a population of 29,070,932,

and dumb naturally, and those who have become so accidentally, is a subject of no trifling importance, but it has hitherto attracted but very casual attention. Of 3,050 *well authenticated cases*, to our own knowledge, 2,241 were *born deaf*, 759 resulted from various diseases, and of 50 only no reliable information could be learnt. Of 489 cases, published some years ago by the National Institution for the deaf and dumb in Ireland, 423 were born deaf and 66 became so after birth. Of 315 children who had been received into the Ulster Institution at Belfast, 273 were born deaf, one of whom was also blind, and 42 became so from disease, &c. Of 440 children of the Glasgow School, 351 were born deaf, 45 from disease, &c., and 44 from unknown causes. Of 1,060 cases recorded by the Hartford Asylum, U. S., 537 were born deaf, 469 resulted from disease, &c., and 54 were from unknown causes. In the Indiana Institution, 313 cases have been noted, of which number 168 were from birth, 130 from

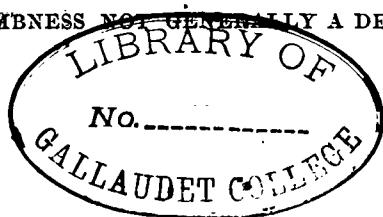
were returned as so afflicted. Notwithstanding the improved machinery used by the Commissioners, we are strongly inclined to believe that even in this last return the number is understated, and that upwards of 22,000 *deaf and dumb persons* are living at this very time in Great Britain. Of this number about 1,650 only are under any kind of instruction. If, at a venture, we deduct 5,000 (?) who may have received some education, we still find upwards of 14,000 of these teachable beings in this country in a state of great mental destitution, and without any immediate prospect of amelioration. We will admit a large proportion may have grown too old to learn, but we are confident the majority are young in years and capable of instruction, if their claims upon public sympathy were properly recognised, and the Institutions for their education were properly supported.

The education of the deaf and dumb should be made a *public duty*; for, when left uneducated, they become comparatively *useless*, and often *dangerous* members of the community. In most of the Continental States a law exists, that every deaf and dumb child, if of sufficiently sound intellect, *must* be educated; and it is to be much regretted that, ere this, a similar law has not been framed in our own country—more especially as the State appears so anxious about the diffusion of general knowledge and the establishment and support of properly conducted schools for the young.

disease, &c., and 15 from doubtful causes. Of 63 pupils admitted in one year into the Pennsylvanian Institution, 27 were born deaf, 33 became so from disease, &c., and 3 from unknown causes. Of 125 cases in a Prussian Province, 46 were born so, and 79 from disease or accident.

Taking these 5,855 cases as an average we may conclude that the actual preponderance is about sixty per cent. on the side of the *congenitally deaf*, and forty per cent on the side of the *accidentally deaf*. Those born so numbering 4,066: those who became so from disease or accident numbering 1,623, the remaining 166 cases being doubtful.

Dr. Peet, of New York, has observed that in Europe the cases of accidental deafness seem fewer than in America. In nine or ten European schools which he examined he found in the aggregate 334 cases of congenital deafness to 204 of accidental deafness; and the census returns of the deaf and dumb in Belgium, taken in 1835, gave 1,484 congenital to 407 accidental cases of deafness. But still, implicit reliance must hardly be placed in these statements, as there is but little doubt numerous children are born deaf who are supposed to have lost their hearing functions by disease at an early age, while others have become so from the variety of inflammatory and convulsive complaints to which all infants seem so inevitably liable.



CHAPTER V.

DUMBNESS NOT GENERALLY A DEFECT.

WE are all born dumb, and continue so till we have sufficient sense to *imitate* the sounds of words; but in the case of the deaf and dumb, instead of being the result or effect of any organic imperfection, dumbness with them, is generally nothing else than the simple consequence of deafness. The want of hearing deprives children of the ability to spontaneously acquire the imitation of language. This arises from their having then no idea of sound or the various modifications of the human voice. When their hearing power has been lost after *spoken* language has been acquired, the loss then does not prove of so much inconvenience: for instance, the hearing may be destroyed by a fever or accident at twelve or fourteen years of age; and though the voice, in consequence of the destruction of the hearing power, will become squeaking or high pitched, it will not altogether fail if daily and carefully exercised.

When dumbness is *not* accompanied with deafness (a common occurrence), it generally arises from some such cause as functional derangement, defective tongue,* total or partial paralysis, or non-vibration of the vocal chords, absence or malformation of the

* The congenital or subsequent loss of the tongue is said to not necessarily occasion deafness; and in the *Memoires de l'Academie des Sciences* for 1718, there is cited the case of a young female born without any appearance of tongue, who, notwithstanding, acquired an intelligible articulate language.

fræna linguæ, or else from imperfect mental development (amounting to what is termed *idiocy*) which, in fact, is the most predominant cause of dumbness when not connected with deafness of a positive nature. A gentleman of some great experience in the deaf and dumb, speaking of the connection between speech and hearing, has stated* that professional experience upon this point is very extensive, and that no case of congenital deafness has ever been discovered showing the slightest degree of imperfection in the organs of speech. Examinations of the deaf and dumb by means of the laryngoscope have also been frequently made of late years, but no malformation of any kind that would interfere with the due action of the voice has been discovered.

With respect to stammering, or impediment in the vocal faculties, it should be known that this disagreeable peculiarity is seldom or never attributable to the causes we have here specified, but as generally arising from want of a proper tone in the nervous system.

* In an article in the *North British Review* some few years ago.

CHAPTER VI.

HEALTH OF THE DEAF AND DUMB.

THE deaf and dumb are generally of a lymphatic temperament, and liable to the same diseases as the hearing, but their average duration of life is considerably less. They are, as children, particularly disposed to tubercular phthisis, cerebral disease, and scrofulous tumefactions. Of fifty-nine deaths, within nine years, among 850 children under seventeen years of age, forty-one were from consumption, and eighteen from diseases chiefly cerebral. These diseases are probably superinduced and often aggravated by the strumous nature of their constitution; for not fewer than seventy per cent. are of a very strumous diathesis. The mysterious taint of scrofula is detected in those born deaf, and in those who lose their hearing after birth. The majority of the children who become deaf from malignant forms of fever or cerebral disease, belong to families in which scrofula is idiopathic; and scrofulous families intermarrying with other scrofulous families often find congenital deafness one of the many culminating effects of their imprudence. But we do not mean to affirm that scrofula is actually the original or specific source of deafness, although there appears almost sufficient vantage ground for such an assertion. Why, we would ask, should the deaf and dumb be afflicted with this malady in a proportion so much greater than is the case with the hearing? Why should deafness be distinguishable in so many

scrofulous families? and why should such families engender deafness more extensively than other families having no such constitutional taint among them?

Anatomists in England, France, and America have made *post-mortem* examinations of the deaf and dumb, and frequently detected scrofulous deposits in one or other portion of the hearing apparatus; but, at present, they are unwilling to say whether *struma* is actually the cause, or even one of the proximate causes, of permanent deafness. Mr. B. Phillips, in his valuable work on Scrofula,* states that, upon examining 262 inmates of a deaf and dumb school, he only detected seventy-seven, or thirty per cent., as having marks of scrofula. Probably, thirty per cent. would be about the average, if we strictly confined ourselves to such as bear marks or chronic glandular swellings only; but it must hardly be accepted as a reliable calculation of that per centage being the *actual* proportion. Speaking *generally* of scrofulous persons, Mr. Phillips says, 'Scrofula is a disease of the constitution which is manifested by certain external signs, of which swelling of the *subcutaneous ganglia* is the most conclusive.' But tumid glands, he thinks, 'are not always a proof that a constitution is scrofulous. They may be the result of local irritation in an apparently untainted constitution. The glands in the groin may swell from a sore on the foot; a mesenteric gland may swell under the influence of an ulcer in the intestine: a cervical gland may enlarge under the irritation of teething, or scalp disease. A tumid gland, even in the neck, is then no proof that the constitution of the individual in whom it is found is scrofulous. But supposing one or several cervical glands to become tumid, in the absence of any obvious local irritation, this would constitute a strong ground for suspicion that

* *Scrofula ; its Nature, its Causes, its Prevalence, and the Principles of Treatment.* London 1846.

the constitution was suffering under the taint of scrofula. It would not, however, amount to more than suspicion, and the suspicion would scarcely receive absolute confirmation, unless we have the opportunity of observing the contents of the tumour itself. Unless the swelling of the gland be accompanied with the deposit of a product known as scrofulous matter, the proof of a scrofulous constitution is, in my judgment, wanted.' Although these observations have no immediate allusion to the deaf and dumb, but bear a general signification, we would remark that the medical officers of any institution for the deaf and dumb are fully aware that a common cold has frequently caused in children, who had previously shown no evidence of a scrofulous constitution, a swelling of one or other of the cervical glands, which have eventually suppurated decided scrofulous matter; and that these same children have often afterwards been periodically subject to such swellings. Supposing a search to be made for the manifestation of the scrofulous taint among the inmates of a deaf and dumb School, where they are generously fed, &c., and are in a good state of general health, it would, doubtless, appear strange that so few could be detected having any marks or swellings. But persons familiar with these children would know that this taint will remain in a torpid state for years, or, may be—unless through some adventitious cause—hardly betray its presence in the constitution at all. This checked or prevented development is attributable to wholesome and liberal diet, combined with the opportunity of having fresh air and muscular exercise. Should, however, the disease be *not* so checked or prevented, or the muscular power of the system become reduced by sluggish sickness or neglect of these hygienic principles, this insidious malady is certain, in some way or other, to develope itself in them—usually in the form of diseased scalp, ophthalmic disease, intumescent

and suppurating glands, marasmus and tuberculous phthisis, when it is idiopathic or decided: and generally in sour, fetid exhalations, scurfiness, &c., of the skin and unhealthy tissues, when it is symptomatic, or subdued, or faint in its character.

Deaf-dumbness is closely allied to and singularly parallel with cretinism.* Cretins, is a term applied to certain individuals who are, usually, subject to large fleshy excrescences on and round their necks, called *goîtres*. They are very common in the valleys of Switzerland, particularly in the Canton Valais; and they have been seen in the Cordilleras of South America, in the South Sea Islands, in the mountain gorges of Thibet, in the valleys and steppes of Tartary, among the Bushmen of South Africa, and in Spain, France, Austria, and nearly every part of Europe. They are often deaf and dumb, generally idiotic, and always very low types of humanity. The disease of *goître* is not always, though generally, their distinguishing mark. Like cretins, some of the deaf and dumb have been noticed to possess, more or less, a deficient sense of taste and smell. Neither is imperfect vision at all uncommon among them. It is also an open question if many of them have that exquisite sense of pain so generally possessed by human beings, as we have frequently seen them endure the effects of frightful falls, crushed limbs, deep incised wounds, and surgical operations with stoical indifference and Spartan fortitude.

* Vide Dr. E. Wells's *Essay on Cretinism and Goître*, 1845, and *Memoire sur le Goître et le Cretinisme*, par M. le Dr. G. Ferrus, 1851.

CHAPTER VII.

MANIA, ETC., IN THE DEAF AND DUMB.

WE have observed, that many of the congenitally deaf and dumb possess, more or less, some constitutional disturbing agency, almost peculiar to them, and which may be defined as *excessive mental irritability*. It manifests itself from time to time in violent, vindictive and spontaneous ebullitions of temper: and, should these ebullitions be frequent (which by the way is happily not the case) and the irritability of unrestrained violence, a confirmed state of temporary or chronic aberration may be apprehended.

This species of infuriation is also excited in them by direct annoyance or imagined affront. At the culmination of even a common paroxysm,

When roused to wrath,
All evil passions *lighten* through their eyes,
And convulse their bosoms like possessing fiends.

Their demeanour is then closely allied to the movements of some infuriate animal void of every phase of reason. They then appear no longer human, but as beings with the most implacable of *sthenic* passions dominant in their hearts. Yet in the presence of an undaunted man, who is also thoroughly intimate with their nature, *this* insensate violence is innocuous and easily quelled. Confirmed mental aberration will sometimes occur in them at 16, 17, 19 or 21 years of age. It occasionally commences in a mild

phase of *melancholia* that will, in the course of a short time, assume all the dangerous symptoms of maniacal paroxysm. Dr. Pinel entertained the idea that some at least of our mental disorders, among which are *melancholia* and *hypochondriasis*, have almost always their seat in the epigastric region: and that from this centre are propagated, as it were, by a species of irradiation, the accessions of insanity. He has remarked in his valuable work ('Treatise on Insanity') that the patient complains of tightness in the region of the stomach, want of appetite, obstinate costiveness, and a sensation of heat in the abdomen, which obtains a temporary relief from copious draughts of cooling liquids. He is subject to a kind of uneasiness, which he cannot describe nor account for: experiences a degree of fear that sometimes amounts to terror, and feels either little disposition or absolute incapacity to sleep. Soon incoherence and incongruity of ideas are betrayed in his outward conduct by unusual gestures and by extraordinary changes in the expression and movements of his countenance.

In the instances among the deaf and dumb that have come under our own immediate observation some of these symptoms have been particularly noticed; but no clue to the origin of the disorder could be found in any case. Out of nine individuals of both sexes (seven boys and two girls) *all born deaf*, not any hereditary disposition to, or disease of insanity (excepting, by the bye, one boy) was known; neither could any satisfactory reasons be adduced by their friends to assist our investigations. At school they were not considered below par by their teachers; nor was their progress in education particularly tardy. The first introduced to our notice (James E—) had left school some time, and had been apprenticed to a shoemaker. His case fully illustrated Dr. Pinel's theory in respect to the progressive

or cumulative nature of insanity, from a gloomy taciturnity up to the ferocious outbursts of maniacal paroxysm. He was, we think, about eighteen years of age. For some weeks he had been noticed to take no interest whatever in any of the concerns of life. He had become careless, idle, and indifferent to everything connected with his personal comforts. He used to wander about the house in a gloomy despondency, neither seeking nor accepting sympathy. This singular taciturnity one day suddenly gave place to alternate fits of immoderate laughter and excessive weeping; in the midst of which he made a desperate and savage attack upon his master with a knife. Frustrated in this murderous design by the man's wife, he turned upon her, and, seizing a heavy piece of wood, felled her to the ground by a frightful blow on the head. When secured by the police and taken into safe custody, he had resumed all his former stolidity, and seemed unconscious to every thing around—a state of mind that continued for some time after his admission into a lunatic asylum.

Another youth (Robert K—), also a shoemaker, for some time evinced nearly similar symptoms. But he used to undress himself at his work, and run in a nude state into the public streets. Upon one occasion he attempted to injure his employer's children, but being thwarted, tried to drown himself in a water-tank. His demeanour in the court of justice had, like the former case, subsided into an unconscious stolidity of manner out of which nothing could rouse him.

The other cases presented nearly the same premonitory symptoms, which gradually reached a certain stage before any dangerous ebullitions made their appearance. They all seem to have a kind of religious *melancholia* upon their minds. We have thought it peculiarly strange that this phrenetic and subtle derangement should show itself about the age

of puberty. It would seem as if in some the same foetal influence which caused their aural defect had at the same time created a cerebral lesion also, which functional change and mental exercise tended to manifest between the second and third septennial of life. Waiving all potent medical conjectures, on the nature of which there is no necessity for us to be explicit here, we have imagined that this additional calamity in some of the congenitally deaf and dumb is also often produced, and sometimes aggravated through injudicious treatment by parents and employers, who, perhaps, having never tried to understand their peculiar dispositions, goad them on, by ignorance and indifference, to acts of desperation; and at other times, by the morose brooding over unbridled and distempered fancies on the part of themselves alone.

There is also another class whose sad condition demands a little, though cursory, attention at our hands, viz., *deaf and dumb idiots*; for the only distinction between insanity and idiocy is, that while the former rarely shows itself before the age of puberty, the latter is always noticeable in earlier or infant life.

Children afflicted with any considerable cerebral defect or lesion are generally idiotic. They are often to be distinguished by their large abnormal heads, sometimes measuring twenty-six, twenty-seven and even twenty-eight inches in circumference; feeble and dwarfed limbs; half-closed slaving mouths; expressionless eyes, unsouled countenances, and most puerile actions. Sometimes, even in this country, they are so affected with *goître*, as to closely resemble the goitrous cretins of Switzerland. When goitre has attacked them to any considerable extent they present to us the lowest possible type of humanity, and it is then difficult to acknowledge them as human beings at all. Monsters in shape, they then possess 'neither the light of reason nor the guidance of instinct;'

neither the physical features of man, nor the mental attributes of his nature. In them we may 'try in vain to recognize the image of God, in which man was originally created; for they are no longer the masters of the world, but the most feeble of all living beings.'

Idiotic children have invariably an involuntary and constant drivelling of saliva. They are at all times restless and heedless of nature's dictates. They invariably smell their food before eating it. They amuse themselves by extremely simple and incongruous means. They are neither alive to the 'swift leapings' of instinct, nor to the feeble climbings of reason. Their moral feelings are as depraved as their intellectual standard is low. They possess little or no affection for either persons or things. They have no controlling influences. They are very mischievous, and occasionally dangerous in the violence of their feelings. From the difficulty or absence of vocal utterance the *hearing idiot* is sometimes confounded with the *deaf and dumb idiot*; a circumstance that has led some to believe that the vocal chords become paralysed or are wanting in them. 'Those who have had experience in the education of the deaf and dumb are not unfrequently called upon to instruct children of very low intellectual capacity; children who, if in possession of all their senses, would still have been considered *imbeciles*. These pupils, however, though never making the progress of those of average intellect, yet invariably improve. They learn to perform the duties required from them of personal cleanliness, and to observe habits of decency and order; their moral dispositions are developed and strengthened, their obstinacy and passion become softened, and their temper ameliorated. They also generally obtain a sufficient knowledge of the sign language of the deaf-mutes to enable them to converse on common subjects; and, furthermore, they generally learn, to

write the names of common objects, and their more sensible qualities, and to perform the easier kinds of manual labour; but they seldom get to understand complicated forms of expression—an attainment, indeed, which in all cases is difficult with the deaf and dumb.* From their degeneration in body as well as mind, deaf and dumb idiots have always been inadmissible into the British Institution for the deaf and dumb. But it is to be much lamented that no special asylum is open to those in whom any faint glimmering of reason' can be detected, especially, as M. Sægert of Berlin has clearly and practically demonstrated that, like *hearing idiots*, their education, in a qualified sense, is perfectly feasible. This philanthropic man has himself successfully trained several imbecile deaf and dumb children, and led them to the very confines of human rationality. Some were, as he says, of a very low type indeed; but they have been trained to wash and dress themselves, to be tractable, to write and draw, and understand words and simple sentences, while the indigent ones among them have been successfully taught to work mechanical contrivances with profit, and without injury to themselves or others. All these praiseworthy advantages have been effected by a kind-hearted and patient man—not so much by mental exercise, as in strengthening their physical debility and sedulously cultivating their instinctive and imitative faculties.

* Dr. W. R. Scott, Exeter Institution.

CHAPTER VIII.

THE BLIND DEAF AND DUMB.

COMPARATIVELY speaking, those persons who, though possessing ears to hear, and tongues to imitate the soft cadences of creation, yet can neither *hear* nor *speak*, and having eyes to dwell upon earth's varying prospects, yet *see* not, are, happily, very few. The first recorded case of blind deaf-dumbness is that remarkable one cited by St. Matthew (chapter 12), where the phrenetic disturbance, of which we have spoken in the preceding chapter, was most singularly developed: '*Then was brought unto him one possessed with a devil, blind and dumb; and he healed him, insomuch that the blind and dumb both spake and saw.*' In the '*Gentleman's Magazine*' for November 1808, is an account of a child named Hannah Lamb, who was a blind deaf-mute. She was accidentally burnt to death in the ninth year of her age. The late Dugald Stewart, in the '*Transactions of the Royal Society of Edinburgh*,'* gives a lengthened account of a young Scotchman, James Mitchell (the son of a Presbyterian minister), who had from birth three out of the 'five gateways of knowledge' closed against him. This man is, we believe, still living at his native place, Nairn, near Inverness. He travels, unaccompanied, about the neighbourhood, his exquisite sense of vibration enabling him to avoid all vehicles on the road. A strange sympathy is said to

* Part I. vol 7.

exist between him and the brute creation. Savage horses or dogs, which it would be highly dangerous for strangers to approach, will allow themselves to be caressed by him. Some years ago he used to walk to Forres and back, a distance of twenty-four miles, on the same day. When a boy, he gave considerable trouble to some men employed at a new house, by climbing up their scaffolding. Upon one occasion they determined to check this dangerous propensity, by catching him and holding him out in mid-air, an effective plan which so terrified him, that he would never approach the building, or recognize them afterwards. He is very tenacious of his privileges, and grateful for acts of kindness done to him. He is very fond of vibrating a key upon his teeth. After his father's burial, many years ago, he wandered to the grave, and commenced removing the earth with his hands, and his friends had great difficulty in leading him from the kirk-yard. In his manner of walking he much resembles a person that is inebriated. He is of sound intellect, but he has never been under efficient tuition.

Mrs. Sigourney relates the case of a girl in the United States, named Julia Brace, who had been successfully educated; and Mr. Charles Dickens has given an interesting account of two other afflicted individuals, in whom the special senses of learning, seeing and hearing, are wanting, viz., Oliver Caswell and Laura Bridgman, inmates of the Massachusetts Asylum, Boston. Speaking of the latter, the author of a little book entitled, 'Blind Bartimeus,' says: 'I have seen Laura Bridgman, whom God sent into the world without sight, hearing, or the power of speech. She could see nothing, hear nothing, ask nothing. To her the very thunder has ever been silence, and the sun blackness. The tips of her fingers and the palms of her hands have been her eyes, and ears, and tongue. Yet this poor sickly

girl knows much of the earth, and language and numbers—of human relationships and passions—of what is, has been, shall be, should be—of sin, and death, and hell—of God, and Christ, and heaven. And all this has gone through the poor girl's slender fingers, darkly feeling the fingers of another. And thus she tells her hopes, and fears, and sorrows.'

The Abbé Carton, founder and director of an institution at Bruges, a very enthusiastic and able teacher of the deaf and dumb, has published an account of a young pupil of his, of the name of Temmermans, who has been very successfully educated. She was deaf and dumb and blind.

The few instances here given are by no means the only recorded ones. There are several other cases published, besides a few at the present time under instruction in those institutions where they are eligible for admission.*

* It may not be irrelevant to this part of our subject if we state here, that the idea of printing raised symbolical letters for teaching the blind to read was originated by the Abbé Haüy, a Frenchman, living in 1784. In 1828 a modification of this method was made by a Mr. Gall, and introduced into general use. A few years later a Dr. Fry thought embossed Roman characters would be preferable; and this excellent idea was ultimately matured by a Mr. Alston, who published it under the title of 'Alston's Alphabet.' There are five or six different ways of teaching the blind; of these the best and most sensible one is that of the embossed Roman letters, and the most curious, that where *knotted string* is used for an alphabet.

CHAPTER IX.

MORAL AND INTELLECTUAL CONSTITUTION.

The Spring-time of our years
Is soon dishonour'd and defil'd, in most
By budding ills that ask a prudent hand
To check them.—*Cowper.*

THE standard of morality in the deaf and dumb before or under a defective education is extremely low; and although its ordinary sentiment may be somewhat familiar to them, they have then no idea of its source and essence, and but a most imperfect conception of its practical obligations. Applying the words of a distinguished essayist, we may honestly say that 'they think nothing at all about their existence and life in any moral reference whatever. They know no good that is to have been endowed with a rational, rather than a brute nature, excepting that then they have the privilege of tormenting brutes with impunity. They think nothing about what they shall become, and very little about what shall become of them. There is nothing that tells them of the relations for good or evil, of present things with future and remote ones. The whole energy of their moral and intellectual nature goes out as in brute instinct on present objects, to make the most they can of them for the moment, taking the chance for whatever may be next. They are left totally devoid even of the thought that what they are doing is the beginning of a life; their whole faculty is engrossed in the doing of it; and whether it signify anything in the next

ensuing stage of life, or to the last, is as foreign to any calculation of theirs as the idea of reading their destiny in the stars.

Not only, therefore, is there an entire preclusion from their minds of the faintest hint of a monition, that they should live for the grand final object pointed to by religion, but also, for the most part, of all consideration of a reputable condition and character of life.*

In youth their conduct is chiefly regulated by the outward demeanour of those around them, and their tone of life coloured by what they observe done by others. Their ideas of probity are also somewhat lax; but they can be readily familiarised with the true import of this essential virtue by a compulsory restriction of these crude ideas when they are young in years.

In all young children, be it observed, reason and understanding are nearly dormant. But, according to Milton,

————— in the soul
Are many lesser faculties, that serve
Reason as chief.

And one of these 'lesser faculties' is conscience, the mind's monitor, or forerunner of the understanding; and that, moreover, but half-developed and uncertain in its evidence. In all the young the animal, or instinctive propensities greatly predominate, and they always endeavour to gratify those propensities in much the same sense of wrong-doing as an ox would feel in varying its pasture-ground from the field of its owner to that of his neighbour. They are certainly conscious of no abstract, or conventional laws of morality, but act in direct obedience to those prerogatives peculiar to mankind in a primitive or nomadic, but not immane condition. If hungry, and no

* *Foster's Essays*, Essay 5, chap. ii., sect. 1.

one to stay that hunger for them, they will satisfy their appetite with the first edible thing that comes in their way without question as to right of ownership. And so would it be with every individual desire, if they were not overruled by a *visible* force of example showing them that these spontaneous dictates of instinct — though ingredient perhaps to nature — are subservient to certain essential laws of reason, which conduce to man's civilization and happiness. This being the case with *ordinary* children, what must it be with deaf and dumb children who have to remain in the grossest state of ignorance for several years of their lives, who are, in fact, little else than living *automata*? How shall we make it obvious to belief, that they can entertain any *proper* ideas of so comprehensive a subject, as morality in all its varied phases? As human beings, possessing 'sense, spontaneous motion, the faculty of reasoning,' and that immortal spark of the Deity, a soul, they may be, nay are, capable of understanding the whole moral and divine law. But they can only acquire this knowledge through the assistance of those who can impart it to them by a systematic and regular education, and not by any spontaneous exercise of thought on the part of themselves. Warburton has remarked, that our knowledge of moral good and evil is solely acquired by abstract reasoning, and to talk of its coming any other way into the mind is weak and superstitious, as making God act unnecessarily and superfluously. We therefore have here *primâ facie* evidence of the importance of *well-grounded* and *early* education to the deaf and dumb, as being conducive to the expansion of the nobler qualities of their nature, and repression of the perverse promptings of their own animal instincts. Even with education and religion in their heads and hearts (notwithstanding the happy counterbalance of several good and generous traits), many of them are, unfortunately, swayed by the objectionable

tendencies of human nature, and are obstinate and suspicious, unscrupulous and vindictive, mendacious and cunning, opinionative and capricious, domineering and self-sufficient, cruel and ungrateful in their disposition and character. Example most certainly goes far to make them moral, 'for virtues and vices can by no words be so plainly set before their minds as the actions of others will show them, if their observation be carefully directed towards those actions.' And, in the same manner, will the sight of outward worship — *especially where prescribed forms are used* — materially extend and improve their own crude notions of religion.

Before instruction, the deaf and dumb are said to know nothing whatever of the past or the future, and but little of the present — nothing of the history of other times or the experience of other men — nothing of those great truths of man's immortality, or his spiritual relation to the great God who created him. But, at the same time, *if of ordinary mental capacity, they do entertain some idea of a supreme existent power*, to which they, moreover, know all they see is subservient. And, although these intuitive perceptions are extremely vague and perplexing, they sometimes have a very healthy constraining influence over their minds and conduct through life.

There is a universal natural theology to be found among all intelligent creatures (Romans i. 20). However low a people may have sunk in the depths of ignorance and consequent barbarism, the worship of God — some errant fragment of knowledge of Him, as the maker and ruler of the universe — can yet be traced among them. Ages upon ages may have elapsed since their progenitors — '*because of the blindness of their hearts*' — alienated themselves, still the *spirit* of worship is lingering about their minds, as the faint glimmer of a star is said to illumine the firmament a thousand years after that star — the true

source — has left its orbit in the heavens; or why should they worship, even idols? Correct in the theory of religion, they are only debased in the practice of it; for does not the poor Indian child pause in his pastime to pray to the voice of the great Creator in the passing wind, and worship the setting sun—that it may visit him again? Does not the savage islander of the Southern Seas worship, through the medium of an uncouth idol, *his* idea of the same mighty mystery? Did not the civilised nations of antiquity seek, with singular intelligence, the divine inspiration of this same conception in ‘forms of heroic majesty and ideal grace?’* And have not the writings of Herodotus, Seneca, and others proved how nearly they regained the truth? Does not the Asiatic of the present day embody his imperfect yet happy idea of ‘the unknown God’ in Brahma, the *Creator*? The ceremonies and priestly innovations are the only traditions. Man’s conceptions of a Supreme Being are innate. They were implanted by God himself, and are developed by the intuitive sense of human reflection.

Dr. Wells, speaking of the poor debased cretins of Switzerland, says it is very interesting to observe lingering in the clouded minds of these unhappy beings, some faint spark of religious secret fire, some intuition of the soul’s immortality, and so with the uneducated deaf and dumb, although existing in

* ‘The Grecians in general, and the Athenians in particular, were not content to worship their ancient deities, but frequently consecrated others of their own making; and, besides these, assumed into the number of their own the gods of all the nations with whom they had any commerce; so that even in Hesiod’s time they had *thirty thousand gods*. So fearful were the Athenians of omitting any, that they erected altars to unknown Gods; but no new deity was allowed to be worshipped without the approbation of the Court of Areopagus. Hence it was that Socrates was condemned to death for worshipping strange gods, and that St. Paul, when he preached Jesus and the resurrection, was summoned to appear before the Areopagites, to give an account of his new doctrine.’—*The Antiquities of Greece* by the Rev. R. B. Paul, M.A.

worse than pagan darkness as regards any idea of God, as God the Creator, the omniscient and the omnipresent; they also are intuitively sensible of His existence as a supreme spiritual *Power*, we will not say *Being*; they moreover know that this same *Power* influences not only their own feelings, but the minds of all around them. In civilised countries their ideas upon this vital subject are also enlarged by observing the religious actions of others: they see them attend places of worship; they watch them at devotions at home, and they find one day (the sabbath day) differing from the others; they behold ministers of religion on this day appealing with impressive earnestness to some evidently important though unseen Being; and they see anxious invocations made to this same source by grief stricken men and women, when the spirit of a friend is passing away in death. All these significations of humility, or worship, or affliction they know are directed to that same inscrutable influence which, like an atmosphere, dwells about them, and from which they feel there is no escape. This inherent sense of religion springs from conscience, which develops itself in them some time before reason or understanding is manifested. They are no doubt highly speculative, still the inferences they deduce are, doubtless, approximately correct, because they are spontaneous and natural, proceeding immediately from the mind, and not warped by the errors of tradition, or the conjectures of antagonistic creeds of faith. Religious knowledge is very properly made the ground work and staple of their education, and it soon obtains a steadfast hold upon their minds, notwithstanding its abstruseness. Hardly anything interests the intelligent among them so much as some simple and descriptive lecture upon the truths of the Bible, and the doings of the illustrious persons therein mentioned.*

* We well remember a deaf and dumb boy having a quarrel with his companion, who went away from school without a reconciliation.

The intellectual powers are not particularly dulled nor the germ of intelligence materially affected by the deprivation of the hearing faculties, more especially if a commensurate period of time for mental training be allowed, and the duty of the teacher honestly performed.*

Sound mental training, it may be supposed, is preeminently serviceable to the deaf and dumb, as without it they must pass through life among the most solitary and wretched of mankind. Even in matured age they would be but 'children in beards,' having perceptions like children's, crude and simple, and 'borrowed only from those objects they have had most to do with, and which have made upon their senses the strongest impressions.' Having no right conception of God's ordinances, they would be totally unacquainted with the truths and precepts of *revealed religion*. Having no knowledge of those Commandments which God himself gave to Moses, they would hardly be transgressors of such written laws. Having never heard of the redemption of the world by the death of Christ, they would seem and be like pagans in a Christian land. And the historical and philosophical, as well as the Divine revelations of the sacred Scriptures, would be to them equally incom-

A short time after he had gone, this poor boy was discovered at his bedside *signing* by his hands a prayer to Heaven. When questioned about his unhappiness, he said, as — had quarrelled with him, and gone home in anger, he was asking God, *who knew all hearts, to shake hands and be friendly with him*, because his companion would not—the simplicity of the idea most truthfully evincing the sincerity of his petition.

* 'Persons born deaf are neither depressed below nor raised above the general scale of human nature, as regards their dispositions and powers either of body or mind. They are human beings individually differing from their kind only by an accidental defect; this defect is not such as to disturb the course of nature in the first stage of the growth of the mental faculties, though, while it operates as a bar to the acquisition of language, it retards, and almost precludes, their expansion after this stage.'—*Instruction of the Deaf and Dumb*, by Joseph Watson, LL.D.

prehensible, equally obscure. Moreover, they could not then well or intelligibly express their wants and wishes. They would have no native language, and but a few simple signs and uncouth gestures to make themselves understood at all. Their normal minds, when left to their own guidance, are, like animal instincts, unprogressive—hence a deaf mute now differs in no degree from one that lived a thousand years ago. Yet all such persons, notwithstanding their many disadvantages, are our fellow-creatures, and like unto us in all things, excepting their sealed ears, their voiceless lips and speechless tongues.

CHAPTER X.

EDUCATION OF THE DEAF AND DUMB.

UNTAUGHT.

Years came, years went, *he* grew up on this mountain
 A strange creature, passionate, wild and strong;
 Untaught, savage; wanting, like the savage,
 Natural vent for rapture or for wrong.'

* * * * *

TAUGHT.

But *she* came back gentle, patient, tutored,
 Climbing noble heights of self-control;
 On her brow the conscious calm of knowledge,
 And the Christian's comfort in her soul.'

'The Twin Mutes,' *Dub. U. Mag.* Oct. 1859.

THE art of successfully imparting instruction to the deaf and dumb can never become a matter of theory, to be imparted by books, or carried out in ordinary schools. Yet in this enlightened age it might perhaps be reduced to a more practical system than is at present the case. It seems hardly credible that in England this branch of education should still be '*without form and void*,' that no advance or particularly noticeable improvement (excepting what a few individual teachers may have done for private purposes) has been made in it since Bulwer, Holder and Wallis formed the idea, and the original promoters of our deaf and dumb schools modified it to its present utility. But such is too truly the case. Some persons have even thought that the method has been already so fully developed as to be incapable of any additional improvements.

Developing and promoting the latent faculties of

the deaf and dumb, by a thoroughly sound religious, moral, and intellectual cultivation, is a matter of moment to the whole community; yet how few know or care in the least how this cultivation is effected. Take even the parents of deaf and dumb children, they send them to school for six, seven, or eight years, or until they are considered competent to sustain a position in the circle of society. They express their surprise at the gradual expansion of the bud of intelligence in them, their organ of wonder is perhaps greatly excited, but they seldom or never take the trouble to ascertain *how* this knowledge has been imparted. With a remark, similar to one they would ejaculate at a clever wizard's performance, they express their gratified astonishment to the teacher, and compliment him upon the singular aptitude he evinces for his vocation; the truth of the Arabian proverb, that 'parents of the deaf, know the language of the deaf,' is seldom exemplified in them. Now, if these persons would only permit their children to become occasionally *their* teachers, and would seek besides a little theoretical knowledge of the subject, they would acquire a most useful conception of deaf-mute education that would prove extremely serviceable to them in the daily intercourse of home.

There are other persons who tell us they have heard of the possibility of educating the deaf and dumb, but the subject to them is totally devoid of interest. Like other things, though difficult, they believe it possible, and they understand there are those in the world who practise the art for the sake of a livelihood. All books upon it are scouted by them as technical and not to be included in the category of their reading. When applied to about a deaf and dumb child, they refer the applicant to London, or Edinburgh, or Dublin, in much the same manner as they would recommend a man with a torn coat to a tailor, or one that is sick to a physician. But

spectral disease may extend its poisoning breath over some young and cherished member of *their* family, and, by withering the functions of the ear, leave that child also deaf and, eventually, dumb. Or they may be called upon to participate in the direction of a charitable Institution for the deaf and dumb, and have occasionally to examine and test the educational progress and mental development of children there. And it is under such circumstances as these that *they*, too, would find even a meagre acquaintance with this useful and important subject of eminently practical value.

It is an inexcusable indifference that has engendered so many erroneous notions respecting the deaf and dumb, and wrapped their condition and their education in the garb of so much seeming mystery.

Dr. Wallis's system, as published in the *Philosophical Transactions* for 1698 (*two years after Holder's decease*) is the basis of our English method. This system consists, as he says, of 'two parts, each of which makes the other more difficult; for besides that which appears on the first view *to teach a person who cannot hear to pronounce the sounds of words*, there is another, of teaching him *to understand language and to know the signification of those words, whether spoken or written, whereby he may both express his own sense and comprehend the thoughts of others.*'

The respective means or vehicles employed to practise this method of instruction, and which will be presently described, are—

1. Articulation.
2. Pantomimic signs and gestures.
3. Finger Alphabets.
4. Pictures or Models.

Everything has to be taught solely and directly through the channel of the eye: 'As in children every day,' Dr. Wallis remarks, 'the knowledge of words, with their various constructions and significa-

tions, is by degrees attained by the *ear* : so that in a few years they arrive at a competent ability of expressing themselves in their first language, at least as to the more usual parts and notions of it: why should it be thought impossible that the *eye*—though with some disadvantages—might as well apply such complications of letters or other characters to represent the various conceptions of the mind? For though, as things now are, it be very true that letters are with us the immediate characters of sound as those sounds are of conceptions, yet is there nothing in the nature of the thing itself why letters and characters might not as properly be applied to represent immediately, as by the intervention of sounds, what our conceptions are?’

A Mr. Thomas Braidwood, the conductor of a small establishment in Edinburgh, for the treatment of stammering and the cure of defective speech in hearing children, being induced to attempt the education of a Leith merchant’s deaf and dumb son, was one of the first individuals to carry out, in any efficient manner, this system. He entered zealously and *con amore* upon his task, and by untiring assiduity speedily conquered all the technical difficulties of his undertaking. He accordingly very satisfactorily educated the child, and then set to work to extend his sphere in this new field of action. He viewed the matter, moreover, in a strictly pecuniary light, and caught at *articulation* (or the art of teaching the deaf and dumb to speak) as the most certain means of gaining conspicuous attention, wealth and fame. His skill, as a teacher, must somewhat speedily have reached America; for, about 1780, a gentleman of New York placed his son with him. After this boy had been some few months under Mr. Braidwood’s charge, his father visited the school, and upon the first interview his son, *arte nova captum*, voluntarily addressed him by saying, ‘*How do you do, my*

dear papa?’ and asked him, *vivá voce*, several other questions relative to his home and kindred.*

This gentleman, in expressing his unqualified approbation to a friend, writes: ‘It would be impossible to describe the various instances of mental and literary qualifications I have had conviction of; suffice it to say, that Mr. Braidwood, by his ingenuity and talents, doth teach his pupils in effect to hear, and in reality to speak.’ Dr. Johnson, in *his* account of a ‘Tour to the Hebrides,’ in 1773, describes a visit to this distinguished man’s establishment. ‘There is one subject of philosophical curiosity,’ he remarks, ‘to be found in Edinburgh, which no other city has to show,† a college for the deaf and dumb, who are taught to speak, to read, to write, and to practise arithmetic, by a gentleman whose name is Braidwood. The number which attends him is, I think, about twelve, which he brings together into a little school, and instructs according to their several degrees of proficiency. I do not mean to mention the instruction of the deaf as new. Having been first practised upon the son of a constable of Spain, it was afterwards cultivated with much emulation by Holder‡ and Wallis, and was lately professed by Mr. Baker§, who once flattered me with the hope of seeing his method published. How far any former teachers succeeded, it is not easy to know; the improvement of Mr. Braidwood’s pupils is wonderful. They not only

* As all deaf and dumb children, however, are very chary about using an articulate language in place of their own natural language of signs, we suspect a preparatory rehearsal had been practised here.

† He was not cognizant of De l’Épée’s school, at Paris.

‡ Holder was a clergyman, holding the living of Bletchington, Oxon. He invented and successfully practised a mode of instruction of the deaf and dumb, and held frequent disputes with Wallis upon the subject. He died in 1696.

§ This Mr. Baker was a distinguished naturalist, and also a bookseller in London. He married one of Defoe’s daughters. His book was never published.

speak and understand what is written, but if he that speaks looks towards them and modifies his organs by distinct and full utterance, they know so well what is spoken, that it is an expression only figurative to say that they hear with the eye. That any have attained to the power mentioned by Burnet,* by feeling sounds by laying a hand on the speaker's mouth, I know not; but I have seen so much that I can believe more—a single word or a short sentence, I think, may possibly be so distinguished. It will readily be supposed that Mr. Braidwood's scholars spell correctly. Orthography is vitiated among such as learn first to speak and then to write, by imperfect notions of the relation between letters and vocal utterance; but to those students every character is of equal importance, for letters are to them not symbols of nouns, but of things. When they write they do not represent a sound, but delineate a form.

This school I visited, and found some of the scholars waiting for their master, whom they are said to receive at his entrance with smiling countenances, and speaking eyes, delighted with the hope of new ideas. One of the young ladies had a slate before her, on which I wrote a question, consisting of three figures to be multiplied by two figures. She looked upon it and quivering her fingers in a manner which I thought very pretty, but of which I know not whether it was art or play, multiplied the sum regularly in two lines, observing the decimal places, but did not add the two lines together, probably disdaining so easy an operation. I pointed at the place where the sum total should stand, and she noted it with such expedition as seemed to show that she had it only to write.

* Bishop of Salisbury, author of *History of the Reformation*, &c., &c. He gives in one part of his writings (Letter 4), a very improbable account of a young lady who, although deaf and dumb, could, by putting her open hand on the mouth of another, understand every word addressed to her. Burnet died in 1715.

It was pleasing to see one of the most desperate of human calamities capable of so much help.'

Mr. Braidwood, about nine years after this event, removed with his family to London, where (adopting a nephew and training him as one of his assistants) he opened a similar establishment at Hackney. His nephew was the late Joseph Watson, LL.D.,* of whom it may be honestly said, that no fitter man for instructing or dealing with the deaf and dumb, could have been found. To a lucid intelligence, unswerving resolution, and untiring perseverance, so highly characteristic of the Scottish race in general, he added the effort of an enthusiastic mind to accomplish a thorough success in his profession, and the extent to which his exertions carried him in this respect will be fully understood when we say, that the attainments of some of the best educated scholars, of the best educated and most practical teachers, of the present day will hardly bear comparison with *his* pupils. Like Cardinal Richelieu in politics, he 'possessed in the highest degree that great quality *without which* no ability can exert any lasting influence on human affairs, *with which*, hardly anything is impossible to genius and activity—moral courage and unflinching determination.'

About the commencement of the last century Defoe, the author of 'Robinson Crusoe,' published a very strange literary production about a man who, in his own words, 'is actually deaf and dumb, and born so, who does write and read and converse as well as anybody; who teaches others deaf and dumb to read and write and converse with everybody; who likewise can, by a presaging gift, set down in writing the name of any stranger at first

* The University of Glasgow conferred this degree upon him in recognition of a very able work on the Instruction of the deaf and dumb.

sight, tell him his past actions, and predict his future occurrences in fortune.* Defoe took considerable pains in the compilation of this work, more especially with regard to the judicious selection of extracts from Dr. Wallis's observations. He has moreover introduced remarks of his own, which are particularly deserving of commendation for their succinctness and practicability. 'How,' he observes in one place, 'are children at first taught a language, that can hear? Are they not taught by sounds? And what are these sounds but tokens and signs to the ear, imparting and signifying such and such a thing? If, then, there can be signs made to the ear, agreed by the party teaching the child that they signify such and such a thing, will not the eye of the child convey them to the mind as well as the ear? They are indeed different marks to different senses, but both the one and the other do equally signify the same things or notions, according to the will of the teacher, and consequently must have an equal effect

* Duncan Campbell was born in Scotland sometime in 1680, and, through the kind offices of some able tyro in the art of deaf-mute instruction, received a very fair education. In 1694 he wandered to London, and passed several years in close obscurity. He then tried to start a private school for the deaf and dumb in Holborn, which was probably the first of its kind. The age in which he lived was notorious for the prevalence of gross credulity and superstition. It was implicitly believed that supernatural agencies influenced mankind, and that soothsayers held the destinies of mortals in their hands. The highlanders of Scotland were thought to possess the power of second sight; and Campbell, a needy and cunning man, was cognizant of this, and passed himself off as a highlander thus gifted in a remarkable degree. He was the better able to accomplish this on account of his natural affliction, and knowledge of the fact that deaf and dumb persons were considered free from the responsibilities of the human race; and that, like idiots, they were all 'silly,' or *blessed folk*. His success in this novel position, for a deaf and dumb person, was most signal; and, judging from what Addison (*Spectator*, 505) and Steele (*Spectator*, 474; and *Tatler*, 14) have recorded of him, we may infer that this 'unco cannie' man raised for himself such renown as a *clairvoyante* as had not been surpassed since the days when Merlin used to mutter forth his prophetic sayings in the fifth century.

with the person who is to be instructed ; for, though the manners signifying are different, the things signified are the same. For example, if after having *invented* an alphabet upon the fingers, a master always keeps company with a deaf child, and teaches it to call for whatever it wants by such motions of the fingers, which, if put down by letters (according to each invented motion of each finger) would form in writing a word for a thing which it wanted ; might not he, by these regular motions, teach its eye the same motion of things, as sounds do to the ears of children that hear ?’

CHAPTER XI.

A PRACTICAL AND GENERAL SKETCH OF THE MEANS OR
VEHICLES EMPLOYED TO EDUCATE THE DEAF AND
DUMB.

Speechless complainer, I will learn thy thought :
In thy dumb action will I be as perfect
As begging hermits in their holy prayers :
Thou shalt not sigh, ——
Nor wink, nor nod, nor kneel, nor make a sign,
But I of these will wrest an alphabet,
And by still practice learn to know thy meaning.

Shakspeare.

I. ARTICULATION, or the Artificial Method of
teaching the Deaf and Dumb to speak.

NOTWITHSTANDING several defects in the *modus operandi*, this method of deaf mute instruction is rational enough : it being none other than the simple substitution of articulated words—‘ signs of the thoughts ’—for the usual language of pantomime, and making these words, as early as possible, a vehicle for the intercourse and transmission of thoughts—to be communicated phonetically, or by means of written or printed characters ; and to use sign language merely as the medium for explanation, where word language has not been sufficiently acquired for the purposes of its own application.

A detailed account of the various means employed to accomplish these very desirable ends, would far exceed the limits of this little treatise and our present intentions ; we shall consequently confine ourselves to a brief, but, we trust, an instructive outline of them,

as propounded and matured by several distinguished practical teachers, both deceased and living.

As the following remarks upon articulation may seem to the general reader occasionally vague and incomprehensible, we will endeavour to preface them with a few observations, to explain away any obscurities which may arise. It must be borne in mind, that the deaf and dumb (like the blind) are highly sensitive of vibration. In giving utterance to words or letters (guttural ones especially), a considerable vibration occurs in the *larynx*, or upper part of the windpipe, or on the teeth, or some part or other of the facial or lingual muscles; and it is by close attention to this vibration of the vocal fibres, to the modulation of emitted sounds, to the knowledge of voice being the result of imitation, and that the perfection of speech consists in the facile operations of the various parts (the throat, tongue, teeth, lips, &c.) brought into exercise in using the voice—that many of the deaf and dumb can be taught to pronounce words, and stammerers and stutterers (where no organic impediment exists) cured of their defective utterance.

The German or broad sound of the vowel *a*,—for example—in the word *wáll*, causes a very perceptible vibration in the *larynx*; and the proper sound of *e* in *bean* creates an equally sensitive vibration in the teeth. And so is it with each of the remaining vowels, down to the occasional ones *w* and *y*.

At the commencement, therefore, of his labours, the teacher himself has to consider what a simple vocalised sound actually is, as noted by a single letter (*a*); and he has to be particular in understanding the nature of the vibrations of the *chordæ vocales*, or the vocal organs concerned in the formation and production of this letter as a sound. This accomplished, as regards this one, he has then to familiarise himself in the same way with the other

vowels, or simple sounds, *e, i, o, u*, taking care that the external positions of the mouth, &c., be as visible as possible to his pupil, and that each sound be made with a slow and *firm* enunciation, without the slightest grimace. If he is satisfied of the certainty of producing the same sound by the same action and position of the organs concerned in performing it in himself, he should then take a pupil (an intelligent and confident one always preferable), and write upon a slate the first and simplest of sounds (*â*). He should then call the child's attention to it, and show him how he artificially utters it, repeating the illustration several consecutive times. The child will undoubtedly *imitate* him, but the imitation probably will be in motion only, and innocent of any degree of sound. Still, as the child attempted it, he should be encouraged in the same manner as if he *had* successfully accomplished it. The next thing is, to make him cognizant of sound being required—no easy matter, one would imagine, seeing that the deaf have no more idea of actual sound than the blind have of positive colour. But a teacher of the deaf is supposed to be aware that his pupil, if unconscious of sound, is not insensible to vibration. He should therefore take the child's forefinger, and place it on the thyroid prominence, or Adam's apple (where voice commences), of his own (the teacher's) throat, and slowly and firmly sound that letter (*â*) which he wishes to elicit from the child. If this be repeated several times, so much the better for the pupil's comprehension, for he will be considerably perplexed by the first few lessons. When the teacher is satisfied his pupil is sensible of the vibration, he should quickly convey the child's finger to the thyroid prominence of its own throat, direct attention to the inflexion of the lips, and repeat the utterance once more. If the sense of the vibration (which is caused by the rush of air from the lungs acting upon the

cartilages of the *trachea*, &c.) still exist in the boy's finger, he will *feel* this vocalised breath, imitate it in consequence, and the desired sound or letter of the alphabet will be elicited. A sensible teacher, when this step has been accomplished, would express himself to his pupil in an unrestrained manner, and encourage him, even by some trifling present,—

As masters fondly soothe their boys to read
With cakes and sweetmeats,—

to continue the repetition of this same single sound until it can be done instantly, and without labour or fatigue. If the teacher finds his pupil possesses the right materials—a clear *tone* of voice, intelligence, &c.—to work upon, he should then proceed to the next of the simple sounds (*e*), a letter which the child, by the same sort of showing 'as before, will perceive to be only a modification of the same voice, through a different position of the mouth, &c., in forming it. Thus, in this simple manner, by the same equally simple process, may each sound or vowel be imparted to a child, till every one can be audibly articulated. And be it known, that to teach deaf and dumb persons to articulate words, is a process that requires no particular talents, no long and special training, but a very great deal of patience and kindness.

Every step gained is a footing and help to the next; therefore, when the difficulty of teaching the vowel sounds has been surmounted, the teacher should next endeavour to give his pupil a knowledge of the *powers* of the consonants; or, as Dr. Watson's 'Instructor' says, 'Those positions and actions of the several organs employed in their formation, without the addition of any distinct vocal sound.' With this knowledge also acquired, he should then join these consonants to the vowels, forming, by the connection, syllables, or that elementary combination of words

which furnishes the storehouse of our vocal language, thus :—

Sounds.	fall	far	fat	fate	ē	âē	ō	ēwho	ōō	âē
	â	â	ă	ā	e	i	o	u	w	y
b	ba	ba	ba	ba	be	bi	bo	bu	bw	by
c	ca	ca	ca	ca	—	—	co	—	—	—
d	da	da	da	da	de	di	do	du	dw	dy
				&c. &c.						
				a	e	i	o	u		
b	"	"	"	ab	eb	ib	ob	ub	—	—
c	"	"	"	ac	ec	ic	oc	uc	—	—
d	"	"	"	ad	ed	id	od	ud	—	—
				&c. &c.						

Also the prefix and affix of ch, gh, gn, ph, sh, th, &c., &c., to the vowels, all of which must be taught in the same manner. The teacher should daily exercise his pupil in these combinations of the vowels and transmutations of the consonants, until they have taken a firm root in the memory, and can be articulated at sight, and without the slightest hesitation. From syllables, the teacher should conduct his pupil to simple names of objects, always resolving the latter into the former, according to the sound; until (like syllables) the formation of spoken words has become settled in his mind, and he can orally read off any matter without any such vicarious aid being required: thus—

Body,	phonetically equal to	<i>bo-de</i>
Head,	"	<i>hād</i>
Face,	"	<i>fās</i>
Nose,	"	<i>noz</i>
Eye,	"	<i>i</i>
Lip,	"	<i>lēp</i>
Book,	"	<i>būk</i>
Slate,	"	<i>slāt</i>

How do you do?
Hāw dw u dw?

Are you happy?
Ar u hā-pē?

The great secret of success lies in a very small compass, a little attention to the simple elements of

spoken language being all that is required. A teacher (as Holder, Wallis, Braidwood, and Watson had done) has only to make himself thoroughly acquainted with the nature of the various organs concerned in the pronunciation or vocalisation of words, and which it is impossible theoretically to describe, such as the *labials*, or those letters formed by the lips—*b, f, p, (ph), v, w*; *dentals*, or those formed by the teeth—*d, t, (th), s, z, c, j*; *palatials*, or those formed by the palate—*c, g, (ch), k, g,;* the *denti-palatial*, that formed by the teeth and palate, *x*; the *aspirate*, *h*; and the *liquids*, *l, m, n, r*. Articulation being one of the most tedious things a deaf and dumb scholar has to learn, the least impatience or ebullition of temper on the part of the teacher materially militates against his progress in it. But if he be an intelligent scholar, with a good natural *tone* (not *noise*) of the voice, and not discouraged, he may succeed in uttering, audibly and distinctly, a great number of words, and even sentences, in the space of three or four months' time. Then—

The struggling soul *hath* burst its binding cords,
And the long pent-up thoughts flow forth in words.

It must, however, be borne in mind by those directly or indirectly interested in the elementary instruction of these children, that it must be done *individually*, so that to give each child a proper (daily) chance of learning, no man of ordinary abilities should have more than *twelve* pupils in a class. He is unable to do justice to more than that number at any time. In teaching articulation he can, occasionally, teach them collectively; but then (as vision travels in right lines), no more should be assembled in the segment of a circle, of which he is the centre, than those who can distinctly *see* his mouth; so that each child is able to repeat or write, *mot à mot*, the respective vocalised words composing the lesson. If a child be daily exercised in articulation during his continuance at school, or until his organs of speech have become

sufficiently pliable, there will be no danger of his ever losing this invaluable auxiliary, the importance of which he will the more and more appreciate when he returns home, and has to mix with persons not conversant with his normal mimic language.

An able and industrious teacher may make many of his pupils competent, in time, to audibly articulate any colloquial phrases, and to read aloud in a firm and distinct enunciation from any book. It is in these pupils that we find the tongue of the deaf and dumb unloosed, and of whom we can say, with the Psalmist, '*Behold, they speak with their mouths.*' Anxious parents find language addressed to them by hitherto speechless children, in those endearing strains which filial affection and secret intuition so instinctively prompt them to utter.

Unfortunately, it is not possible to obtain such gratifying results in every instance; for although most of them are capable of *uttering* positive sounds, the deaf and dumb have generally such very discordant or weak voices as to make the capability they possess of no avail. Others, again, are deficient in acuteness of perception; a quality indispensable to a ready (vocal) imitation of the vowels and consonants. As few children below *par* ever accomplish any serviceable knowledge of articulation, its acquirement by a child may be accepted as a criterion of fair mental capacity. In those schools where it is now taught, scarcely more than one child (naturally deaf and dumb) in thirty attains to anything approaching success. Still, if the remaining twenty-nine learn enough to assist their own memory [which (aside) we consider extremely doubtful], or to enable them to read from the lips of others, it may be considered as something gained in education, to be more appreciated in after life. If it does *not* attain either of these ends, its continuance as a superadded part of education, is a sheer waste of time and labour. Children who have lost their hearing by diseases, and who possess

tractable powers of voice and quick mental parts, may be pushed on to great perfection in artificial speech, if their teacher thoroughly understands his business, and has particularly the gift of perseverance. From the great physical exertion required, however, and the fact that it is never the source of any original knowledge to the deaf and dumb* (apart from its succeeding in so few instances), articulation has never been introduced into the American schools: and, we fear, it seems to be gradually falling into neglect in our British establishments. The Braidwoods, the Watsons, and those of their followers who made themselves thoroughly acquainted with the anatomy and nature of speech, have often succeeded where the exciting source of vocal power was almost aphonous. In them the art culminated; and it has since, for lack of attention to it, greatly declined.†

* 'Words may be remembered as *sounds*, but cannot be understood as *signs*, whilst we remain unacquainted with the things signified.'—*L. Murray*.

† The phonetic way of teaching a deaf and dumb child, who has accomplished the preliminaries of articulation, to speak the Lord's Prayer:—

Our Father, which art in heaven, Hallowed be
Awr Fa-thar wetsh art en ha-van Ha-lo-ed be
 thy Name. Thy kingdom come. Thy will be
thi Nām. Thi keng-dam kam Thi wel be
 done in earth, As it is in heaven. Give
dan en arth, As et es en ha-van Gev
 us this day our daily bread. And forgive
as thes dā awr da-le brād. And for gev
 us our trespasses, As we forgive them that
as awr tras-pas-es, As we for-gev tham that
 trespass against us. And lead us not into
tras-pas a-ganst as. And led as not en-to
 temptation; But deliver us from evil: For thine
tam-ta-shan Bat de-le-var as from e-vl For thin
 is the kingdom, the power, and the glory, For
es the keng-dam the paw-ar and the glo-re For
 ever and ever. Amen.
a-var and a-var A-man.

CHAPTER XII.

THE VEHICLES OR MEANS EMPLOYED TO EDUCATE THE
DEAF AND DUMB.

E'en the turn of a finger can speak.

Bloomfield.

II. SIGNS AND SYMBOLS.

HAVING in the preceding chapter dwelt at some considerable length upon articulation, we would merely remark here in reference to it, that it should, in the schools where it is practised, be taught simultaneously with every lesson of the other branches of a deaf and dumb child's education.

Signs—*indicateurs d'idées*, or 'visible words,' as Bishop Jewell styled them—are virtually the first and most important of all the contrivances which have been designed or substituted for communication with the deaf and dumb. Sign language is their *natural* language, and, being so, is contradistinguished from ours by its inseparable affinity with their ideas. Hence also its universality, as is evidenced by the facility with which they, irrespective of country, can communicate with each other.

The simple signs will be best acquired by parents or teachers, by careful observation of the way in which (by signs) a deaf and dumb child conveys its own thoughts and feelings to the notice of others: for he naturally,

Doth by dumb signs himself as much express,
As if in words at length he show'd his mind.

By the term signs, or speaking by action, is meant

certain mute demonstrations of ideas as opposed to those articulate sounds, called words, which are, in fact, nothing more than arbitrary signs of internal conceptions in those who *hear*.*

Although the deaf and dumb can and do acquire the use of articulate language, they always think and generally communicate their thoughts to others, by signs and gestures. Signs are of two kinds—*natural* and *conventional*.

1. NATURAL SIGNS.

Those extemporaneous signs of the hand and *impromptu* expressions of the countenance which spring forth without study and without art, and more fully interpret the affections of the mind and the operations of the senses, than mere verbal ejaculation, may be styled *natural signs*. As such, they are not peculiar to the deaf and dumb—though invariably used by them in their normal or untaught condition. A person generally *raises* his hand at a surprise, or when dumb with terror; and how often is a woman seen to *clasp* hers in the intensity of fright, or anguish, or hysteric despair. A *smile* on the countenance of a child shows us its contentment; but a *tear* there signifies it to be unhappy or in bodily pain. Natural signs extend also to the superior instinctive animals and indicate most clearly their feelings, their desires, and intelligence.

2. CONVENTIONAL SIGNS.

Conventional signs are certain arbitrary gesticulations, &c., which instructors have chosen for the conveyance

* ‘When children have, by repeated sensations, got ideas fixed in their memories, they begin by degrees to learn the use of signs. And when they have got the skill to apply the organs of speech to the framing of articulate sounds, they begin to make use of words to signify their ideas to others. These verbal signs they sometimes borrow from others, and sometimes make themselves: as one may observe among the new and unusual names children often give to things in their first use of language.’—*Locke*.







of ideas of a complex nature, and the signification of subjects not otherwise easily defined or represented to the minds of their pupils. These differ in every school for the deaf and dumb, and are subject to no established code.

Sign-language has long been used as a medium of communication. In the infantine ages of the world, when articulate language was sterile, confused, and imperfect, the small stock of words—chiefly visible nouns and interjections—which man then possessed, rendered recourse to this kind of language absolutely necessary, for the communication of thoughts from one to another. It is frequently referred to in Scripture, and allusions made to it by several of the heathen writers. The ancient Greeks used various signs of the hands and postures of the body in all their prayers and supplications. Roscius the Roman actor could cause an assembly of people to weep by his marvellous powers of mimicry and gesticulation, when perhaps a similar theme declaimed by Cicero, even in his words of fiery eloquence, would scarcely move them. At the present day, travellers relate that sign-language is used among barbarian nations to help out their imperfect oral language, when holding communication with neighbouring tribes and people at marts of commerce and treaty conventions.

Several futile attempts have been made to introduce dictionaries of signs, for the use of amateur teachers and persons not practically familiar with pantomimic language. The best and most ingenious production of this kind was one (*'Theorie des Signes'*) published by Sicard in 1808, but it soon fell into disuse. It is utterly impossible to define signs in a manner sufficiently intelligible to enable a general or casual reader to learn, from theoretical description, that which can only be acquired by constant and long practical intercourse with the educated deaf and dumb or their teachers. And hardly then, unless

the mind and disposition of the learner are specially devoted to the acquirement. It may seem almost incredible that there are many professional teachers, who have spent the best years of their lives among the deaf and dumb, from some inmanent inaptitude or nervous diffidence, incompetent to carry on a discursive conversation in sign-language.

In addition to the ordinary signs, there are also certain symbols sometimes used, which are of eminent service in imparting grammatical instruction. They are—

•	definite article.		verb passive.
	indefinite article.		verb neuter.
~	noun.		adverb.
^	adjective.	•	preposition.
	general pronoun.		conjunction.
✓	general verb.	!	interjection.
	verb active.		

CHAPTER XIII.

THE MEANS OR VEHICLES EMPLOYED TO EDUCATE THE
DEAF AND DUMB.

Told me art had bridged that gulf of silence,
That the delicate finger-language drew
From the deaf mute's heart its secret strivings,
Gave him back the truths that others knew.

Dub. U. Mag., Oct. 1859.

III. FINGER ALPHABETS.

FINGER or manual alphabets are cognate to signs, and, like them, most important adjuncts in deaf-mute instruction. Their origin is veiled in the darkest obscurity. Our existing systems are merely modifications of Symbol alphabets, which were familiar to the Egyptians long before Cadmus had introduced the written characters of mythic Thoth into Europe, and taught their practical utility to mankind. There is also evident scriptural proof that some such medium of communication was known to the Jews in the time of Solomon, as that enlightened monarch, in the 6th chapter of Proverbs, alludes to a speaking by the feet and *teaching by the fingers*. The venerable Bede was about the first individual who paid any literary attention to finger alphabets; but he seems to have entertained no idea of their value as a substitute for mouth communication of language. Bonet—the successor, as an instructor, of Ponce—has noticed in his work some of the then *known* finger alphabets. And it is to him, though on what grounds we know not, that the invention of the single-handed system has been attributed. In the Report (for 1861) of the Institution for the Deaf, Dumb, and Blind, at Madrid, Bonet is styled the *first writer* on the deaf and Dumb, '*la primera escrita en el mundo sobre*

enseñanza de los sordo-mudos ;' but speaking of Ponce, it says, '*inventor de las enseñanza de los sordo-mudos*,' thereby proving that it is Ponce alone who deserves credit for *inventing*, discovering, or adopting this among the other means he had for educating his pupils. As Bonet himself, moreover, does not specially lay any personal claim to the discovery, we do not at all see why the credit should be given to him rather than to Ponce, from whom so much of his knowledge of the deaf and dumb and their instruction was undoubtedly derived. Bulwer also wrote a treatise on the subject of hand or finger alphabets.

At a meeting of the Council of the Royal Society, held March 4, 1668, it was ordered that a work by Dr. W. Holder,* should be printed. In the course of this said work, the author, having concluded some instructions for teaching an *articulate alphabet* to a deaf and dumb child, says: 'Having thus made him learn the alphabet and the characters of it, next (or together with the other) teach him an *alphabet upon his fingers*, or several parts of his hand, by placing the letters there *which you may devise at pleasure*: for example, making the joints of the fingers of his left hand, both on the inside and also on the outside, to signify some letter; . . . particularly, let the extremity of the thumb and four fingers of the left hand signify *a, e, i, o, u*. The middle of the insides of them, beginning at the thumb, *b, c, d, f, g*. The bending of the fingers on the inside, next the hand, *h, k, l, m, n*. The back joints below the nails, *p, q, r, s, t*. The middle joints, *v, w, j, y, z*. Anywhere towards the wrist, or by crossing the two forefingers, *x*.

This alphabet, which was among the first *detailed* ones of the kind published in England, was used by Holder when he instructed a deaf and dumb person

* Entitled, *Elements of Speech: or, an Essay of Inquiry into the natural production of Letters. With an Appendix concerning Persons Deaf and Dumb.*

in the year 1659. In 1680, a considerable time after the publication of the above treatise, a Scotch schoolmaster, residing at Oxford, named Dalgarno, published a remarkably ingenious work, entitled, 'The Deaf and Dumb Man's Tutor.' Therein he has given a manual alphabet,* almost identical with Holder's. This alphabet, in Dalgarno's estimation, was incapable of modification or improvement; but his successors do not seem to have corroborated this idea, as shortly after his decease some nameless teacher of the deaf and dumb, who, we believe, however, to have been a Scotchman, modestly altered it to its present simple and convenient form. But had either one of these alphabets been generalised it must necessarily have proved a very complex one, and required no ordinary *acumen* in the pupil to have caught the exact *locale* of each respective letter on a teacher's hand.

Defoe, to whom we have previously alluded, was contemporaneous with Holder, Wallis, Dalgarno, and others practically interested in the education of the deaf and dumb. From the pains he took in the compilation of Duncan Campbell's 'Life and Adventures,' we have thought it possible that he was also personally acquainted with them, as well as with that unknown but clever individual who instructed the 'prophetic philomath,' for he appears to have been singularly conversant in all matters relating to deaf-mute education. The earliest edition of the book (about 1720) contains a plate, illustrative of an alphabet, which in no respect differs from that now used in our English schools. Speaking, moreover, of the tutor of Campbell' he says, 'This man taught his little dumb pupil, first, to know his letters, then to name anything; then to leave off some of his savage notions, which he had taken of his own accord to signify his mind by; then to impart his thoughts *by his fingers* and his pen in a manner as swift through the *eyes*

* Vide 'Dactylology,' *National Cyclopædia*.

as that is of conveying our ideas to one another by our voices through the conduits and portholes of the ears.' In the succeeding chapter he speaks of *inventing* an alphabet, but the vagueness of the expression used by him renders it impossible to decide whether the boy's tutor or Wallis, whom he had visited at Oxford, is to be considered the designer of it. We think if Wallis had designed it he would certainly have noticed it in the able letter upon the deaf and dumb and their education, which he addressed to his friend Dr. Beverley.

'Among themselves, the instructed deaf and dumb use almost exclusively the language of *signs*, and have recourse to the manual alphabet only for the expression of proper names, or of such technical words as have not been characterised by a specific sign. But in communicating with those who are unacquainted with their system of signs, they habitually use the alphabet. In conversing thus with them it is not always necessary to form entire phrases. The principal words suffice to fix the attention, and a natural gesture completes the thought. * * * As all the deaf and dumb who have received the usual instruction are acquainted with the use of the manual alphabet, it seems almost incumbent on those who have any intercourse with such, or with others who cannot benefit by vocal communication, to acquire this useful and simple art.'*

M. Paulmier, one of the teachers at the Parisian Institution, in an able work (published 1834) upon the deaf and dumb, suggested a *gymnastic alphabet*, for usage at a distance. He gave a diagram of it; but it never became popular. The deaf and dumb would never put themselves into a series of grotesque postures to spell a sentence which one comprehensive and graceful sign of the hand would far better and more readily accomplish.

* *Penny Magazine*, Sept. 1833.

CHAPTER XIV.

THE MEANS OR VEHICLES EMPLOYED TO EDUCATE THE
DEAF AND DUMB.

—— pencil'd figures are
Even such as they give out.
Shakspeare.

IV. PICTURES AND MODELS.

As through the introduction of diagrams of the manual alphabets into many of the common schools, almost every child is now familiar with one or other of them, we have not thought it necessary to give any verbal description, or pictorial representation of them here.

‘Verbal description, or writing,’ says Mr. A. Aikin, ‘which is language addressed through the sight to the understanding, is quite incapable of conveying clear ideas of many natural objects, which a simple outline correctly drawn will impress in an instant upon the mind.’ Among the various adjunctive aids for systematically educating the deaf and dumb through their external senses, there are, therefore, none superior in importance to the eye lessons of *pictures and models*. For the conventional names of objects, however familiar they may be to the mind of a deaf and dumb child, will be of little or no service to him if he cannot at the same time be shown the *objects* themselves, or their representations in connection with them. Every school-room should therefore be well stocked with pictures and models of every description. ‘Let words,’ it has been said,

‘ sketch ever so well, let a written language be ever so minute, ever so precise, ever so forcible and brilliant, it will fall far short of leaving on the memory an impression so distinct as a *picture*. The eye is ever a more faithful servant than the ear.’ Books abounding in *good* pictures are also among the most valuable helps which teachers possess in imparting the first principles of a practical education. A *picture*, Addison observes, bears a resemblance to its original, which letters and syllables are wholly void of. A celebrated Nonconformist divine, Dr. Dodderidge, has declared that the deepest impressions of his early religious knowledge were derived from the *pictures* on the Dutch tiles of the fire-place, which his mother used to explain to him in simple language on Sunday evenings. Locke has recommended to all children a vocabulary of those words standing for things which are known and distinguished by their outward shape, *accompanied by draughts and prints*. And Dr. Watson tells us, ‘ Among the various objects that are noticed with delight by deaf children, perhaps none are more so than *pictures*.’ Dr. Wallis, also, in his admirable suggestions for teaching persons deaf and dumb,* says: ‘ It is most natural, as children learn the names of things, to furnish them by degrees with a nomenclature containing a competent number of names of things *common and obvious to the eye*, that you may show the thing answering to such a name.’ These ‘ names of things, are to be digested under convenient titles, and placed in such order as, by their position, best express to the eye their relation one to another; that is, contraries or correlatives one against the other, and subordinates and appertinances under their respective principle, and so on. Let a classification of this kind be

* Letter to Dr. Beverley, September 30, 1698, and published in the 3rd vol. of Dr. Wallis’s mathematical works.

properly done, and it will serve the child as a sort of local memory. The title of *mankind*, for instance, may have placed under it, *man, woman, boy, girl, child, &c.* The title of *human body* may have under it all the parts pertaining to the body, with a subordinate title for its clothing, &c. And so with all *beasts, birds, fishes, reptiles, vegetables*, as well as all visible inanimates. A principle may be chosen, and all the correlatives arranged in each instance after it. Such a vocabulary of *substantial nouns*, scientifically compiled, and effectively illustrated (in connection with a corresponding one containing all the invisible nouns, of existence, &c.), would be invaluable to a teacher of deaf and dumb children. Two such works would suffice for familiarising his pupils with classified ideas, and *lectorem delectando pariterque monendo*, by a most simple process, join sound knowledge and much interesting amusement hand in hand.

This method, by gradually proceeding in it with diligence and application, would work wonders in a short time, and lay a good foundation for further instruction in abstract matters of religious and general knowledge, which must be taught by other means. All illustrated *alphabetical* vocabularies are comparatively useless to the deaf and dumb. On such a plan they must be void of classification or method—and it is only method that elucidates. ‘Outward objects that are extrinsical to the mind and its operations—proceeding from powers intrinsical and proper to itself, which become also objects of its contemplation—are the original of all knowledge.’* In addition therefore to pictures, there are models of various kinds, as well as cabinets of vegetable and mineral productions, in their raw and manufactured conditions, which should be placed in all schools for the deaf and dumb, for they can naturally acquire much

* Locke.

more real knowledge of things from tangible and visible forms than from any dry verbal description, or even their pictorial representations.

With these educating agencies at his command and a few ordinary school books, a teacher beginning with the alphabet and its symbolical representations on the fingers, may teach his pupils by *written characters* the names of those objects which their friends may have probably taught them by common or arbitrary signs at home, so that the *name now*, and not the sign, may recall the object, and the object the name for it.

Deaf and dumb children may be taught the formation of letters on a slate, long before they are capable of doing anything else, and such an acquirement is of the greatest assistance to them, when they are sent to school. After they have learned thoroughly the names of a given number of simple visible objects,* as *man, boy, woman, girl, body, head, arm, leg, &c.*, they should be taught by the same manner as they learnt these names, to qualify them as *tall man, short woman*, letting every qualification bear an appropriate sign, which must always be associated with and allied to the word it is intended to demonstrate; they may then proceed to the remaining words indispensable in the formation of language. The verbs—active ones especially—may be taught by representative signs, and the pronouns also by an ingenious substitution of them in the place of nouns. The moods and tenses of verbs should at first be taught without the slightest regard to their conventional variations and appellations (which at the best can only ‘confuse, bewilder, and torment’); and the less definable parts of speech,

* Deaf and dumb children soon learn the names and ideas of nouns of substance, but they are a long time before they can comprehend nouns of existence, virtues, and qualifications.

such as adverbs, prepositions, &c., should be explained by frequent exercises in their individual uses in forming language. This kind of training, patiently conducted, *peu à peu*, and by an easy gradus, is equally applicable to arithmetic in all its modifications, and to any branch of knowledge which a teacher is able or may desire to impart from books.

In the ordinary institutions for the deaf and dumb the course of instruction should comprise all the branches of a plain but sound English or national education; and where education is the ostensible and main object, it should be imparted by well-educated, well-trained and well-paid teachers. The all important subject of religion (stript of all perplexing sectarian dogmas, which few children comprehend, and not one deaf and dumb child could possibly understand) should be taught as soon as its vital signification can be at all revealed to them. But as most institutions, from the support they derive from all persuasions, indiscriminately throw open their doors for the admission of Jew or Gentile, Protestant or Catholic children, no deaf and dumb child ought to be persistently initiated into a creed not in unison with that of its parents. Lord Brougham, in a speech at the London University in 1859, truly observed, that in the public educational establishments all should be equally admitted, and all usefully taught in harmony with each other. The admission of persons of all religions does not augur indifference to religion, but quite the contrary. In so high a matter, compromise is impossible, and no one should be asked to abandon his faith for any temporal advantage or secular consideration.

It is a general complaint when deaf and dumb children are discharged as educated from school, that they do not understand the construction of language, but so twist and mangle their phraseology as to render the meaning incomprehensible to others. This inversion (*for a time*) is unavoidable, and chiefly arises

from their limited acquaintance with the composite character of our very arbitrary language. It compels them to fall back upon their natural language of signs, and they write or speak that word first which is the most prominent in their imagination. If they ask for a particular object, that object being the most concentrated idea in their minds, will be written or spoken *first* by them, then they will proceed to the next most exciting object or idea impressed upon the *sensorium* of their brain, till the desired sentence is formed or the matter they may be writing is finished.

CHAPTER XV.
•ON THE PROPER AGE TO COMMENCE, AND THE TIME
ALLOWED FOR A DEAF AND DUMB CHILD'S EDUCA-
TION.

THERE is much diversity of opinion in reference to the age at which a deaf and dumb child should commence its education, and what length of time should be considered the proper educational term. The late Mr. Thomas James Watson, whose eminent abilities as an instructor, great experience and long practical knowledge of the deaf and dumb, made him one of the highest authorities in all matters relating to the subject, used to say that a deaf and dumb child's education could begin immediately the defect was discovered, if a qualified person could but be found to teach it. But he always stoutly opposed any *special* schools for *infants*, as he believed they would be mere nurseries, and tend to destroy all parental and filial feelings, as well as be productive of no small measure of anxiety to those who had the direction of them. As the deaf and dumb, moreover, are generally tardy in their development and constitutionally delicate, he questioned if any substantial good could be effected in regard to mind tuition before the age of six or seven years. Other eminent teachers have suggested, and certainly with reason, that they should commence *as early as possible* an education of the eye, that they may be enabled to derive all the advantages accruing from that extensive inlet of intelligence. The Braidwoods (father

and son) and Dr. Watson were of this opinion, but, at the same time, they did not recommend special schools for children of three or four years of age, but that their mothers or sisters should endeavour to give them a preparatory sort of education, by means of pictures and writing exercises, at home. Reference is, of course, made to those persons whose education gives them the ability and position in life, the opportunity to carry out such a suggestion. In the case of the poor, whose friends lack any such adjuvant advantages, an intelligent hearing child, we presume, would do equally as well; or they could be sent to 'some ordinary day school,' where they would acquire the habit of order, the ability to imitate letters and knowledge of the names of many common objects — more especially of places where the Pestalozzian system of education was known and practised.

At five years of age most *hearing* children, with the opportunity of learning, are acquainted with the alphabet and the numerals, and capable of reading, writing, and understanding a considerable number of simple nouns. At six years of age they can form simple sentences, and at seven or eight readily express their thoughts in a style commensurate with their age and capacity of mind. But deaf and dumb children are, upon the average, nearly nine years old before they are eligible for any British institution. Six months, upon the average, have then to be wasted in learning the alphabetical characters, and the art of connecting these characters for the formation of words. All this—notwithstanding that all rudimentary knowledge is of very essential importance as regards the way it is imparted — could be as well taught them at the age of five years by the greatest novice, and much valuable time in consequence saved to the professional teacher. Some clergymen are in the habit of allowing any little deaf and dumb parishioners they may have to attend their church day schools; and the

healthy effect of this exemplary plan is well evidenced in the orderly behaviour of these same children, by their *rote* acquaintance with the rudiments of language and marked difference between them and others, when they go to a regular and special place of deaf-mute instruction.* Such children as these can commence the knowledge of words and their various associations at once, while their teacher has some little mind diversity, instead of spending the dragging hours of every day in the monotonous occupation of cramming A B C and 1 2 3 into the vacuous brains of a lot of wondering and insentient children, who ought at least to have known the alphabet, the combination of letters, their connection with words, and the cardinal numbers some two years before coming to him. It is here where the advocates of infant schools for the deaf and dumb gain a point of considerable advantage, which, we presume, the *experimental* plan, now in operation at Manchester, will, eventually, decide in their favour, and cause *preparatory* schools to be attached to every institution.† In one or two of the British establishments the children are admitted at seven, and retained till they are fourteen years of age; while in others they are admitted at eight and a-half, nine, or ten, and retained for about five years. In Italy the duration of their scholastic term averages about five years. In Switzerland, six years. In Germany, six to seven years. In Prussia, six to nine years. In Belgium, six years. In France, about six years. In Holland, seven to eight years. In Russia, six years; and in Denmark seven to eight years. In

* Animal sprightliness must not, however, be accepted for apparent mental capacity, of fair average order, in young deaf and dumb children.

† An infant school was opened on the 26th of September, 1860, as a branch of the Manchester Institution for the Deaf and Dumb. Children eligible at three years, upon payment of about £6 10s. per annum.

the United States the term varies from six to seven years.

As the education of the deaf and dumb is, from its very nature, a most tedious process, it behoves the directors of all schools for them to admit their pupils *as early as possible*, and allow them as long a stay under tuition as is compatible with the interests of their societies and fairness towards others who may be waiting for admission.* Let the professional teacher of the deaf and dumb be ever so talented and diligent in the exercise of his arduous avocation, he is no magician; and what he does accomplish is effected by dint of much patient and laborious effort. He cannot, and must not, be expected to do as much for his pupils in the same space of time as is allowed the teacher of *hearing children* — children whose education, it is well known, commences spontaneously in their very cradles.

* Referring to the attainment by deaf and dumb children of the simple reading, writing, and understanding of language, &c., Dr. Watson remarks: 'When I say that these acquirements may be attained in *five years*, I mean to state *that* as the *shortest* time, even where the capacity of the learner is good. It is, then, superfluous to observe that, where the mind is intended to be enlarged by a system of general information and science, a proportionably longer time must necessarily be required for its accomplishment.'—*Instruction of the Deaf and Dumb*.

CHAPTER XVI.

ON THE IMPORTANCE OF EFFICIENT TEACHING POWER,
AND THE MANAGEMENT OF THE DEAF AND DUMB.

Quoniam refert a quibus et quo quisque modo sit institutus.
Quintillian.

WHEN that wondrous transmutation of a lump of the pristine earth into the form of original man took place, and the Creator, pleased with this masterpiece of His creation, had breathed into his nostrils the essence of Himself, He purposed that man should take supremacy of all other living creatures, and that he should possess an intelligent mind, capable of increasing in magnitude and power perpetually. For the effectual care of this mind He also furnished him with a subtle power called reason (or the soul's supreme faculty), to be the monitor over its instinctive or stationary qualities.

The cultivation of this mind and the development of reason are, therefore, paramount to any of man's requirements. They guide him in the secular duties of his existence, as well as train him to the attainment of that knowledge which qualifies his understanding for a right conception of God, and the worship of Him, as his Maker.

The mechanical accomplishment of mere reading and writing by our children, coupled to a glib acquaintance with certain secular and scriptural matters, which a few years' rough contact with the world speedily obliterates, cannot be credited as education or mind cultivation, in the proper acceptation

of that term. It is this irrational and useless smattering of knowledge, which has of late years been so strongly condemned as mischievous and unhealthy in the national schools, and which is, perhaps, even more conspicuous in the majority of the *private* schools of this country. 'The *beginning* of every work is most important,' says Plato in his 'Republic,' 'especially to any one young and tender, because then that particular impression is most easily instilled and formed which any one may wish to imprint on each individual.' It is of the highest importance to know in what manner education of the young is conducted, and by whom administered, not in respect of one class of the community, but of all the classes comprising it. Much of the existing mischief is attributable to the inefficiency of the teaching power, for, if the mental calibre of an *instructor* be limited it is only inferential reasoning to suppose that the mental improvement of the *instructed* must be limited likewise. To be philosophically a teacher, a person must be brought up to teach and be willing to undergo the same course of probationary training which he would find requisite in any other vocation of life. *Nil actum reputans dum quod superesset agendum.* The most obtuse-minded individual may have charge of a class of children, but whether they will be instructed by him is quite another thing. With regard to the deaf and dumb, we would submit that an effective mental training of them is, or ought to be, a conspicuous feature in social science. Although in relation to society, generally, they may perhaps form an exceptional class, yet this is no reason why they should be looked upon in the same light '*as the horse or as the mule, which have no understanding.*' With education administered to them by persons who have been specially and technically trained, they are morally and intellectually humanised. By intimacy with the affections and associations of the human

heart, they become better men and women—more intelligent as citizens, and better capacitated for following and carrying out the divers concerns of active life. By education they can understand and be understood by the hearing in the interchange of intellectual thought. Through it they acquire a love of God, and have a reverence for his laws stamped upon their hearts. They gain a mother tongue and become rational and moral beings. They are, in fact, by it made capable of comprehending anything portrayed to their observation, either by the agency of sign or written, printed or spoken language. The education of hearing children commences in the cradle. They are enabled—through the open portals of their ears—to understand language before they can even utter it; to imbibe unconscious knowledge without being taught, and that almost with their lacteal aliment, as well as to command freedom of expression of thought at an early age, without the slightest exertion on their own part or that of their parents. By the time they are sent to school they have already formed an extensive acquaintance with the first principles of human knowledge and considerable familiarity with colloquial language. At school this extemporaneous education proves of very essential service to their instructor, who finds the foundation for his future operations ready prepared, and who has only to solidify that basis and build brick upon brick upon it according to his own individual intelligence and industry. With deaf and dumb children it is widely different. Moved by the impulses of instinct only, and not by any reflection of the mind, the first four or five years of their existence form one monotonous tenor of mute inertness. They look out impassively upon nature with eyes in which generally neither surprise, nor intelligence, nor enquiry is depicted. If they do think, their thoughts are either useless or such as betray the latent presence

of much instinctive cunning. When placed at school their instructor finds them void of the least elementary knowledge, and that he has actually to strike the imprisoned spark of intelligence in their unsouled minds and cherish it when kindled; that he has to transmute their very nature, to disintegrate their feelings, suppress their passions, develop the ingredients of affection, and qualify them in every sense for the prerogatives and the aspirations of mankind. Hence it may be seen that where so much depends upon the teacher, it is impossible for one at all inefficient to accomplish it. Such an one may be able to produce some rough-hewn shape of the mind revealed; but the godlike form which shall bear about it the touches of genius, the only true evidence of a master-hand, can only spring from those faculties which inherent aptitude has fostered and unremitting diligence matured. Applying the words of Horace, it is the teacher only who

Forms the infant tongue to firmer sound,
Nor suffers vile obscenity to wound
His tender ears: then with the words of truth,
Corrects the passion and the pride of youth.

Where a man has become a teacher from the force of circumstances, and not from the free impulse of inclination, there is seldom much private or *con amore* regard for his calling. All instructors of the deaf and dumb, in addition to the cardinal requirements of satisfactory personal intelligence and heartfelt sympathy for their pupils, should possess the highest technical skill and ingenuity for teaching. They should be able to simplify complex and abstract subjects by a careful analysis of ideas and a happy analogy with material things. They should always be competent to give an accurate education of the heart, whence our feelings and the issues of life may be said to spring, as well as of the brain, from which our opinions and the conventionalities of life

take their rise. They should be capable of discerning and understanding the many inherent perturbations of the mind, and know how to soften down the rancour of prejudice, and curb in the obstinacy of disposition (so notoriously characteristic of the deaf and dumb) by repeated searchings into the drift of their ideas. And they should daily strive to obtain some insight into the precise peculiarity of them as a class; for there are many traits of character in these unfortunate creatures still ravelled and speculative to us.

With all modern appliances and means to boot, teachers of the present day should certainly be able to surpass the early tyros in this peculiar art of instruction. Don Pedro Ponce de Leon had pupils conspicuous for high attainments in speaking, reading, writing, arithmetic, general knowledge, and the Greek, Latin, Italian, and Spanish tongues. Bonet had pupils of high proficiency in the arts and polite literature. Holder and Wallis trained pupils in the highest grades of liberal education. The Abbés de l'Épée and Sicard had pupils capable of exercising considerable depth of thought and originality of conception. Jacob Rodriguez Pereires, whom Buffon styled '*l'homme unique, l'homme nécessaire de cet art inconnu*,' is said to have advanced his pupils into the exact sciences, and made them freely conversant with the dead and modern languages. And there are now some few accomplished teachers, who, not forgetting wisdom in dispensing knowledge, have achieved the most signal success in teaching the deaf and dumb. Equally zealous in their endeavours, and all practically and philosophically acquainted with that secret inlet of thought which opens up the fountains of knowledge and cherishes the germination of intelligence, these enthusiastic men have experienced no difficulties in carefully and systematically training up the mind of even a deaf and dumb

child till it has burst forth in all the radiance of human intellectual range and power.

Barthold George Niebuhr, in a letter addressed to a young friend, called the office of a schoolmaster one of the most honourable occupations of life. He could well have added, and one in which a thorough manliness of character is also most essential ; for there is not one where all the manly virtues are more called into exercise. Moral courage, unsullied reputation and integrity, sound religious principles, firmness of purpose and gentleness of demeanour ought ever to be his most distinguishing traits, if he aspire to any degree of eminence in his profession. Then there are certain abstract qualities which have to be allied to these traits, such as discretion, unremitting industry and creditable attainments in knowledge. To his pupils he has to stand *in loco parentis*, and to fix in their minds the tone of character of their after—or manhood life. If any of them, as an American teacher has justly remarked, come out from their training depraved in morals, or deficient in mental culture, society (allowing for all disadvantages) will very justly consider the teacher responsible for whatever is amiss. Unless a man can morally command respect from the young, it is useless his endeavouring to demand it by any physical coercive agencies, especially if his discipline be characterised by the least pomposity or despotism in the exercise of it. Doubtless an empty dignity may be maintained by enforcing tyrannical and injudicious severity, but the respect (?) so excited will be tacitly mingled with contempt. A man's entrance into his schoolroom should be with that demeanour which will neither blanch with fear the faces of the timid nor perturb the hot blood of the resolute among his scholars. Even Robespierre, a man execrated for his cheap estimation of human life, was, in the infancy of the

French Revolution strongly adverse to the shedding of blood, or even to the exercise of any physical cruelty; and he once truly observed, that the *frequent use of savage punishments on the part of a teacher of youth degraded and hardened the minds of his pupils*. We have a recorded example of the happy effect of a kind master's suavity of disposition and school discipline in the case of Mr. Braidwood's deaf and dumb pupils, who, Dr. Johnson has said, used to receive him with smiling countenances and speaking eyes, delighted with the hope of new ideas.

It must be admitted, that a teacher's occupation is proverbial for the exercise it gives to the temper; but, if rationally pursued and philosophically considered, we do not see why it should do so more than an occupation of any other kind. Let a man mix as much as is compatible with his position with his pupils, relate anecdotes to them, give amusing lectures upon common things, and make them *au courant* with some of the leading topics of the time—be, in truth, their 'guide, philosopher and friend,' and he will find even the most obstreperous ones not so difficult to manage after all. It is the *school-keeper*, and not the specially trained *school-master*, who gets worried to the verge of insanity. One has chosen his occupation, perhaps, from absolute laziness, or as a *dernier ressort*, when other means for a living have failed. The other has steadily followed his with his whole mind and heart, as an honourable calling, voluntarily embraced, and from the purest of conscientious motives. This latter is the class of man who, as 'Blackwood's Magazine' for June 1860 informs us, 'has not his proper position among us. He is underestimated and underpaid, instead of being, as he should be, the head and director of the education of the generation under his charge: he is treated as a subordinate who has to carry out the proceedings and the plans of others. . . . In inferior schools, where their pay is very humble,

teachers are but the medium through which the contents of school-books are imparted to their pupils; they neither think nor act as independent instructors.' We should certainly hail with pæans of satisfaction the day which gave to *legitimate* teachers—no matter whether superiors or subordinates—the *status* of gentlemen, and not the position of menials in public estimation.

It may appear questionable, but it is nevertheless the case, that there is a certain degree of similitude between the deaf and dumb and the insane. They both have diseased organizations; but very limited or undeveloped reasoning powers, and a great lack of the self-controlling influences. The mode of treatment in both cases is also identical and efficacious. However stubborn or irritating the temper of a deaf and dumb child may be, experience has now proved that more control may be obtained over it by mild conciliatory measures (rendered effective by steady and dispassionate firmness), than by the exercise of any system of coercive violence or thoughtless cruelty. Dr. Pinel, in dealing with his poor demented patients, at the *Asylum de Bicêtre*, found, in most cases, that solitude and limited diet were always efficacious with the refractory ones; and the same mode of procedure will be found equally effectual with a very obstinate and unruly deaf and dumb child, notwithstanding any inherent excitability of constitution which may possess it.

With the deaf and dumb, as a class, you must never threaten unless you intend to execute, and never promise unless you mean to perform.

CHAPTER XVII.

ON CHARITABLE INSTITUTIONS FOR THE DEAF AND DUMB.

But to do good and to communicate forget not : for with such sacrifices God is well pleased. (Hebrews xiii. 16.)

IN the course of this little work we have dwelt at some considerable length upon the known and surmised physiological and pathological causes of deaf-dumbness; we have dilated on its idiosyncratic characteristics—of its proneness to pervert the moral powers, and of its tendency to render these powers turbulent and impulsive; we have shown what measures have been adopted for the alleviation of this grievous malady, by a cultivation of the mental powers, and we have enlarged upon the benefits accruing therefrom when that cultivation is judiciously administered: we have now therefore only to add a few brief remarks upon those institutions which—in the plenitude of private benevolence—have been founded and established in this country for the rescue of the *indigent* among the deaf and dumb from their cheerless lives of apathy, ignorance and neglect.

The first of the kind was established in the metropolis in the year 1792, by one whose memory is and ought to be embalmed in the grateful heart of every educated deaf and dumb person. The exemplary *John Townsend*,

Whose only joy was to relieve the needs
Of wretched souls, and help the helpless poor,

was one of those noble-minded individuals who seem figuratively to spring up once or twice in a century

to bring benevolence and good deeds from Heaven. As the humble pastor of a small Non-conformist community, he is said to have preached doctrines teeming with good-will towards all his kind, and at which no man cavilled. But it was not in that sphere he was destined to become conspicuous. His fame as a preacher would never have been brilliant. He possessed neither a dashing style of eloquence that scintillated with metaphysical conceits, nor an eccentricity of manner that could lure thousands to his church, still no one could better send home those telling plain truths which penetrate the remotest corners of the human heart. The poor and needy, encouraged by his benevolent disposition, were frequent recipients of his compassionate charity. On one occasion there stood among the promiscuous applicants at his door some deaf and dumb children: and it was their appealing signs and beseeching looks which struck the chords of sympathy in his heart and prompted him to institute some enquiry into their social and religious condition. The result of that enquiry is now a matter of history. He found these poor creatures with 'neither speech nor language,' '*as sheep having no shepherd*,' more benighted than South Sea savages, mutely asking for the bread of education, but which no one would break unto them; and looked upon by civilised man in the light of a reproach upon his race. Accident having apprised him of the rich among them being sometimes educated, he determined that they, the indigent and the friendless, should also reap a similar advantage, and right heartily did he embark upon this arduous undertaking. He preached some 150 *special* sermons and travelled upwards of 5,000 *miles* about England, pleading its desirability and importance among the wealthy and philanthropic. Subsequently he enlisted the then rector of the parish of Bermondsey, one, like himself, of great natural ability, energy of mind, and the kind-

liest instincts of humanity, as a coadjutor :* and this valuable aid very speedily placed the chaplet of perfect success upon his patriotic exertions '*to do good.*'

That little grain of Christian charity which this unostentatious man thus planted and fostered in a remote district of London, has now grown up and become one of the largest and most influential institutions of its kind in the whole world.†

It has, moreover (indirectly, perhaps), been the means of spreading ramifications into the country. These branches have also taken firm root in the land,

* The Rev. Henry C. Mason, M.A.

† The Asylum for the Support and Education of the Deaf and Dumb Children of the Poor, originally located in Bermondsey, but now situated in the Old Kent Road, Surrey, is in the seventy-second year of its existence. The building is a large brick edifice, comprising a centre pile and wings, of a very unpretending appearance. Since the Rev. John Townsend founded the Society, upwards of 3,200 poor children have been recipients of its many advantages. The annual applications for admission number about one hundred and fifty, of which about sixty-five or seventy are generally elected. The candidates must be of sound mental capacity, and free from any infirmity requiring individual attention. When once nominated on the list for election no child fails in ultimate admission. The children remain five years in the school, during which period they are wholly clothed and maintained by the Committee. Being strictly an educational establishment, no handicrafts are taught in it; but varying sums, as apprentice fees, are granted to those children whose friends are too poor to put them out to trades, upon their leaving school. Admission is obtained into this excellent institution by majority of the governors' votes at the half-yearly elections in January and July. In respect of liberal rules of management, and most liberal scale of dietary, &c., to the children, it is not surpassed by any other charity in the world. It has a branch also at Margate, in Kent. There are also similar educational institutions at Birmingham, Manchester (two, *one being for deaf and dumb infants*), Liverpool, Exeter, Doncaster, Newcastle-on-Tyne, Brighton, and Bath, in England; at Swansea, in Wales; at Edinburgh (two), Glasgow, Aberdeen, and Dundee, in Scotland; at Dublin (two), Belfast and Strabane, in Ireland; besides private and a few minor establishments.

Clergymen and medical men have the best opportunities of seeing and knowing deaf and dumb children; and we would suggest to them the desirability of prevailing with the friends of such children to always have them educated. It will be seen from the above that schools specially intended for them are very conveniently, though

and are in many instances equalling, by the impulse of their young vitality, the original institution in educational fame and importance. It is to be sincerely hoped that, like the banian tree, they will all continue to flourish and extend in their sphere of public usefulness till every deaf and dumb child in the kingdom of Great Britain and Ireland can find in them moral shelter and intellectual subsistence, and enjoy the many humanising advantages which it is in the power of enlightened humanity only to confer upon it.

About a million of money every year has been granted by the Government in aid of the ordinary schools for our youthful *hearing* population: but not one shilling of public money has ever been allowed to the several (more than national) institutions for educating the indigent *deaf and dumb*. All these noble 'trophies' of our Christianity have been founded, and are entirely maintained, by that genial flood of munificence which is being continually poured out by those generous philanthropists,

——— whose circling charities begin
With the lov'd ones Heaven has placed them near,
Nor cease till all mankind are in their sphere.

rather too sparsely, located about the country. Unfortunately, the majority of these schools are too much crippled in their funds to admit candidates on a *free list*; but we have been given to understand the required terms are extremely moderate, and often rendered proportionate to individual circumstances.

After education, the deaf and dumb poor do well as basket makers, bookbinders, brushmakers, cabinetmakers, carpenters, carvers and gilders, chasers, cigar makers, compositors, coopers, cork-cutters, cutlers, engravers, harness makers and saddlers, japanners, jewellers, pattern makers, polishers, smiths, tailors, factory and general labourers: book folders and sewers, boot and shoe binders, corset makers, florists, fringe and tassel makers, laundresses, milliners and dressmakers, print and map colourers, sewing machinists, straw bonnet makers, straw plaiters, tailoresses, and domestic servants. The majority evince quite as much aptitude for business as those who hear and speak; but they all require management and supervision.

