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THE

SENSORY AND MENTAL

DEFICIENCIES OF IDIOTS.

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OF IMBECILE CHILDREN, LARBERT, BY PALKIRK.

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## SENSORY AND MENTAL DEFICIENCIES OF IDIOTS.

THE essential deficiency of idiocy consists in want or hebetude of the intellect, not in imperfection of the senses. Nevertheless, it is clear that the want of two or more of those senses most employed in perception, sight, hearing, and touch, would produce a result closely resembling idiocy. This has been called the idiocy of deprivation, of which I have already given examples. A similar result would be produced in a human being brought up in a solitary and dark prison, where sight and hearing could not be exercised, as was exemplified in the singular case of Casper Hauser, whose sad and mysterious history is no doubt known to you. A being destitute of sight, hearing, and touch could never so connect itself with the outer world as to show anything beyond the feeblest mental manifestations, and would thus be regarded as an idiot. Indeed, long ago, uneducated deaf mutes were regarded by the laws as idiots; and, without education, a deaf mute in many things resembles an idiot. But, now, an educated deaf mute can inherit property, deliver evidence, and enjoy the usual rights of rational beings. In idiots the senses are often more or less defective.

*Touch.*—The sense of touch is often imperfect, but, from the mental dulness, it is difficult to ascertain the nature and degree of the imperfection. Direct experiments, such as noting the distance at which the two extremities of a pair of compasses can be distinguished as two and not one impression being applied to the skin, would be of little use here. Idiots cannot be taught to take enough of interest, or pay enough of attention, to sensations of this kind; and their replies to questions would be of little value. In the idiotic we do not meet with that total want of sensibility to pain which is not unfrequently observed amongst the insane; but it is certain that idiots often endure with indifference blows and other injuries, which would be very painful to an ordinary person, and they occasionally scratch or cut themselves in a way which no one would do who had the feeling of pain ordinarily following such injuries. We have a boy in the house who pulls out his hair when anything annoys him. He will even seize hold of a person's hand, and guide it to his head, apparently to get his hair pulled without personal exertion. Not long ago, I saw a woman who said her daughter seemed deficient in the feeling of bodily pain. "How do

you know that?" asked I. "Because," answered she, "if I beat her, she does not seem to mind; but if she loses anything she begins to cry." An epileptic idiot once got a severe burn with nitric acid, which he took almost with indifference. In this boy the feeling of pain appears decidedly dull. A powerful application of the induced electric current seems to cause him no great uneasiness, but he can distinguish rough cloth from smooth by feeling it with his fingers, and his sensibility to heat appears to be normal. We read of idiots sleeping without cover in the open air, as if they were insensible to cold; others appear to be indifferent to warmth, not drawing near the fire in cold weather. The Report of the Sardinian Commission states that cretins are frequently insensible both to cold and heat. Stahl<sup>1</sup> remarks that they generally endure cold and heat without being much put about.

It seems to me that observers occasionally fail to allow for the slowness of idiots to resent external impressions. We see some sane individuals show their feelings of pain or pleasure in a very lively manner; others much less so; nor can we always put this down to mere difference in degree of sensation.

Selecting some cases in our Institution, we tried to test their sensibility to heat by immersing their hands in warm water, but found that they always withdrew them when it became unpleasantly hot. They did not seem able to endure a higher temperature than I could myself. This was true even of those who seemed indifferent to knocks and cuts, and who were believed to be deficient in tactile sensibility.

As is well known, in lesions to the nerves, loss of motor and sensory power generally go together, though sometimes they occur separately. It has been noticed by military surgeons, who have an opportunity of observing those random vivisections of nerves which are occasionally made by the bullet or the sabre, that sometimes motion is destroyed without sensation, or sensation without motion. The remarkable manner in which the sensory functions of wounded nerves are restored before the motor power, has been explained by Dr S. Weir Mitchell<sup>2</sup> "as being due to the constant automatic exercise of the sense of touch, whereas the function of motion demands a distinct volition." This is perhaps the reason why a defective grasp is more common with idiots than a defective sense of touch. Where the grasp is firm and the fingers can be readily moved, yet the patient cannot put in a button nor hold a needle, we are inclined to

<sup>1</sup> "Gegen äussere Eindrücke sind sie ziemlich unempfindlich; so ertragen sie Hitze und Kälte ohne besondere Belästigung."—Beitrag zur Pathologie des Idiotismus Endemicus genannt Cretinismus, in den Bezirken Sulzheim und Gerolzhofen in Unterfranken des Königreich Baiern, von Dr Karl Stahl bei der Akademie eingegangen den 18 März 1843.

<sup>2</sup> See Contributions relating to the Causation and Prevention of Disease, and to Camp Diseases, etc., edited by Austin Flint, M.D., New York; published for the U.S. Sanitary Commission, 1867; chap. xii. p. 414.

put it down to deficient tactile sensibility; but, when the grasp and motion of the fingers are feeble and trembling, we attribute it rather to want of motor than of sensory power. Abnormal sensations, so common with lunatics, are not often met with amongst idiots. I had one instance where a strong, healthy girl persisted, for several days, in the statement that there was something sticking in her throat; and I was obliged to give her chloroform, in order to ascertain whether anything was really there. Nothing was found; but I told her that I had taken the thing away, when she seemed satisfied, and complained no more about it.

Seguin gives two cases where tactile sensibility was obtuse in every part of the body save the soles of the feet. Sometimes particular spots are noticed to be extremely sensitive. We have in the house an epileptic idiot, in whom there is little difficulty in ascertaining that sensibility is much less keen in the trunk and limbs than in the head. If pinched or pricked on any part below the neck, he shows very little uneasiness; but if the same thing is done to the cheeks, or if the hair be pulled, he expresses pain in a lively manner. He uses his lips and tongue in feeling, instead of his fingers.

The sensation of hunger and thirst seems rarely wanting. There are cases where the desire for food is very keen, and difficult to satisfy; and we have a girl—a congenital idiot—in the Institution, aged ten years, whose thirst is so inordinate, that she will drink almost any kind of liquid in enormous quantities. She has been known to empty a ewer full of water in a short time. This abnormal thirst has lasted for the two years she has been in the house, and was noted on arrival. It is unaccompanied by diabetes.

*Sight.*—The visual apparatus of idiots is generally good. According to Guggenbühl,<sup>1</sup> this also holds true with the cretins amongst which he laboured. I have not observed an unusual number of either short or long sighted cases in our Institution; and I have never been able to satisfy myself of the existence of a single case of colour-blindness. We have three instances in the house of malformation of the iris giving an irregular form to the pupil, but, apparently, without injuriously affecting the sight. Blindness occasionally occurs in idiocy, most frequently the result of cerebral hæmorrhage.

*Hearing.*—Deafness frequently occurs in families where some of the other members are idiots. Sometimes idiots are born deaf. We had an instance in the house of a boy who was almost totally deaf—the external auditory meatus of both ears ending in a blind

<sup>1</sup> Die Cretinen-Heil Anstalt Auf dem Abendberg, von Dr Guggenbühl, Bern und St Gallen, 1853, p. 90. "Der beste Sinn ist fast immer das Auge."

The same statement is made in the Rapport de la Commission de S. M. le Roi de Sardaigne, pour étudier le Crétinisme; Turin, Imprimerie Royale, 1848. Focéré (Traité du Goitre et du Crétinisme, Paris, an viii.) says, § lxiv., "Le seul sens de la vue paraît intact; mais qu'importe s'ils voient, ils n'aperçoivent pas."

pouch, about an inch from the outer opening. Loss of, or diminution of, the sense of hearing is often the result of hydrocephalus and scarlet fever, and sometimes of epilepsy, which are also causes of idiocy.

*Taste.*—A large number of idiots are deficient in taste; some of them seem to want the sense altogether; at least, one may make bold to say that a boy who would eat black soap cannot have much of the sense which constituted the main enjoyment of Apicius. Idiots seldom have the same objections as other children to take medicines. They will chew pills in their mouths, in a manner which makes one sick to look at; and I have seen a boy who positively seemed to enjoy turpentine, very likely because the strong, stinging taste aroused his dull gustatory nerve. It is only the more intelligent class of idiots who notice any difference in the flavour of articles of food. They generally eat what is put before them, but sometimes refuse to take particular articles. Some of them cannot be kept from eating grass or offal, or even more disgusting substances. In about eighty cases which we carefully examined, taste was found to be very deficient in twenty-two. They swallowed, without any apparent uneasiness, tincture of ginger hot enough to be painful to an ordinary palate. Six more appear to have the sense of taste deficient, though in a less degree; and very few of them seemed to possess anything like a delicate palate.

*Sense of Smell.*—The boy who ate black soap and swallowed the hottest tincture of ginger without any remark, seemed also to want the sense of smell—at least, he did not seem to find the fumes of strong liquor ammoniæ in the least annoying. This was also the case with a girl, who does not appear to want the sense of taste. Both were congenital idiots, but were capable of expressing their feelings. It is almost impossible to say how far idiots may be wanting in the delicate perception of odours. The sense of smell is too feeble in the human species to arouse a sluggish apprehension. As a general rule, it may be said that idiots want the sense of smell much less often than the sense of taste. They are pleased with sweet odours, and dislike pungent ones. They rarely use the sense of smell to distinguish the quality of food.

*Mental Symptoms.*—The study of the mental symptoms in idiocy is of the first importance. No amount of skill in the diagnosis of pathological conditions can dispense with the careful analysis of the existing mental powers. On the other hand, by ascertaining the amount of intelligence, we can form some notion as to the amount of the nervous or cerebral lesion. An experienced observer can generally, on a single examination, assisted by parents or friends, gain a pretty correct estimate of the amount of intelligence possessed by an idiot. It is more difficult to find out whether he is educable or not.

It is scarcely necessary to point out the difference between dementia and idiocy. Dementia begins with average intelligence, which gradually diminishes; idiocy begins with a low amount of

intelligenee, which gradually increases. The intelligenee of the dement and of the idiot may be, for a time, about equal; but the one has reached it by the process of subtraction, the other by the process of addition. As a rule, the intelligenee in dementia is always getting less; in idioey, on the contrary, it generally slowly improves, until the period of adolescence is reached. In dementia, it is always difficult to say how much intelligence remains. Some demented have not lost the power of thinking or of concentrating their attention, but seem to abstain from doing so, because any mental exertion gives them pain; and, under some unusual motive or stimulus, they occasionally manifest powers supposed to have been lost for years. Sometimes, too, though rarely, dementia ends in rapid and complete recovery. Perhaps the best psychical classification of idioey is that of Esquirol, in which he takes speech as the criterion. In the first degree of imbecility, speech is free and easy; in the second degree it is less easy, and the vocabulary smaller. In the first degree of idioey proper, the idiot can only use short words and phrases; idiots of the second grade only utter monosyllables or cries; in the third grade, they neither use speech, nor phrases, nor words, nor monosyllables. It will be here seen that Esquirol uses the terms idioey proper and imbecility as primary divisions. It seems to me convenient to use the word idioey, to include all states of deficient intellect in childhood, keeping the word imbecility to denote the higher forms. We might divide idiots, from their mental manifestations, into:—

I. Those who can receive sensory impressions, or *φαντάσματα*, who have sensations which they do not reduce to perceptions. They possess only the passive intellect (*νοῦς παθητικός*) of Aristotle and his commentator, Averroes.<sup>1</sup>

II. Those who have also the power to compare, reason upon, and draw general conclusions from the *φαντάσματα*, who have the active intellect (*ποιητικός*).

III. In the third grade, they can form abstract ideas. This class includes all higher degrees of idioey, and would probably require further subdivision.

For the purpose of education, we divide the pupils of the Larbert Institution into five grades:—

I. Comprising those who can neither speak nor understand speech.

II. Those who can understand a few easy words.

III. Those who can speak, and can be taught to work.

IV. Those who can be taught to read and write.

V. Those who can read books for themselves.

It seems to us that, apart from abstractions, a ready standard to measure the capacities of idiots is got by comparing them with those of ordinary children at a given age. We can say that an idiot has the capacity of a newly-born child. It is scarcely neces-

<sup>1</sup> Averroès et Averroïsme, par Ernest Renan; Paris, 1861; § v. p. 123. Aristot. de Anima, l. iii. cap. v.

sary to go further back than this; but, as you all know, there are some creatures for which we must go back to the foetal condition, accphalous monsters, in whom the medulla oblongata is present, and who can thus breathe, suck, and even be made to cry. These creatures generally die, in the first week, of convulsions. But, to go on, we may say the idiot has the intelligence of a child of so many months, or so many years. Idiocy, in its mental manifestations at least, may be viewed as a fixed infantile condition. Idiots remain all their lives children in intellect; often so in their feelings and desires.

The human body, it ought to be remembered, is an extremely complex machine. At birth the mind of the new being is put in possession of five senses, as means of ascertaining the changes of certain forces or certain properties in the material world; and 265 pairs of muscles, which, made to contract by an effort of the will, enable the new being to execute a variety of motions. Not only are the senses at birth not arrived at perfection, but a long process of spontaneous education is needed, and a number of inferences are made and tested, ere information derived through sensation is of practical value. Sir W. Wilde has some remarks on the order in which the senses come into action,<sup>1</sup> which are worthy of attention. "Taste, with some touch, and a certain amount, are put forth in the act of sucking, immediately after birth, in all young mammary animals.

*clar* "The earliest directed muscular action of the infant is that of the *m* hand pressed against the nurse's breast, but the period at which this occurs is very variable. Vision seems to be perfect at birth, and even before a child has sucked it is attracted by light, and evidently turns to the blaze of a fire or candle. An intelligent child will recognise its nurse in from six weeks to two months,<sup>2</sup> after which it will begin to smile at those it is accustomed to. During the third month, children appear to be conscious of sounds; and in the fourth exhibit an appreciation of particular sounds, such as chirping, whistling, etc.; after that period they begin to recognise the voice; and from the fourth to the sixth month is, perhaps, the earliest period when an opinion can be formed as regards the hearing of an infant; but the idea of deafness never having presented itself, it is seldom until after the twelfth month (unless there are other mutes in the family) that the friends or attendants begin to perceive that the child does not hear. After the fifth or sixth month, infants recognise particular sounds, and distinguish the voice of individuals. This

<sup>1</sup> See Aural Surgery and Diseases of the Ear, by William R. Wilde, F.R.C.S. London, 1853, p. 460.

<sup>2</sup> Adam Smith says it will do so in a month. See a passage quoted from him in Sir William Hamilton's Lectures on Metaphysics, Edinburgh, 1871, vol. ii. (Lecture xxviii. p. 184.) I have asked the opinion of several intelligent mothers upon these and other points, who all would place the evolution of the senses earlier than Sir W. Wilde. However, it is admitted on all hands, that some children are earlier, some more backward, than others.



latter faculty is in some cases dependent upon the development of the teeth, which, to a certain extent, influences the sense of hearing, as already stated. Anatomists say that at, and even for some time after, birth, the tympanum and the meatus are filled with mucus: the former cavity is then so narrow that the quantity of fluid it contains must be very small, and in the latter it is more likely to be some of the liquor amnii which remains in the external auditory canal than mucus.

“The next development is a combination of tact, touch, and directed muscular motion, as shown first in grasping objects placed within reach of the hand, and then directing them to the mouth, which will occur very early in life. There is no sense so variable in its development as speech. Some children begin to speak at from twelve to eighteen months, others not till after the second year; some pronounce distinctly at two years, and others not until nine or ten. Family peculiarity seems to influence the development of speech, and also congenital malformation of the tongue and mouth.”

In idiots this evolution of the senses is sometimes much slower. Some can scarcely be brought to suck at all, though others do so without difficulty. The child does not notice things, smile, or stretch out its hands to grasp them like other infants. Idiots of the lowest class seem to have nothing more than the passive intellect: the optical apparatus of the eye are perfect, but if the creature apprehends the sensation of light, it does not use it as a perception, or perhaps it only notices a sudden flash of sunshine, or the difference between day and night, or perhaps objects swim before his eyes like the waves in the sea, so confused and unnoticed that he can scarcely be said to see at all. Vibrations enter the ear and set in motion its complicated machinery, but the idiot heeds it no more than the miller does the sound of his mill. It is sometimes very difficult to find out whether an idiot is not actually deaf, who nevertheless can hear perfectly well if the attention be caught. Sometimes he will only show that he hears loud abrupt noises, or certain musical notes, or particular sounds, such as the jingling of keys or the deep tone of gongs.

As regards the perception of sensation, the idiot may be somewhat in the condition of a man half asleep, or heavy with extreme fatigue, or on the verge of fainting, or deeply intoxicated. The sluggishness of idiocy may be occasionally owing to all efforts of attention being painful, so that impressions are allowed to wander through the mind without any attempt being made to fix or examine them.

One occasionally sees solitary idiots who have been kept alive for many years, and would die of starvation unless food were put into their mouths. At a Heil-Anstalt in Switzerland I saw an idiot aged fourteen. He was subject to epileptic vertigo, and had never walked nor left the supine position; he could not grasp nor execute any voluntary motion, save opening and shutting the mouth. I have seen another idiot, seven years old, who only swallowed food when

placed on the back of the tongue within reach of the reflex actions of the pharynx. He was kept tied in a chair; for, though unable to design any motion, he would sometimes make involuntary bounds, which would throw him on the floor.

There are cases in which the want of power over the muscles observed in some idiots has been regarded as owing to the absence of what metaphysicians call the conative faculty or will; but it is not clear to me if those who hold to this explanation distinguish nicely enough between the different mental processes required for the accomplishment of a voluntary act. We must first have knowledge, the knowledge of the object desired, and then the desire put forth in overt exertion to obtain a known object, or to change one state for another, which is quite different from the pain and pleasure obtained, when by the exertion of the will the object is gained. The quiescence of idiocy may be owing to the want of knowledge requisite to form a definite desire, to the callousness of feeling through which pleasurable emotions cannot be reached, as well as to the want of will or desire to obtain by exertion a known object.

In the Eighth Annual Report of the Pennsylvania Training School for Feeble-minded Children, Dr Parrish describes this want of volition observed by him in idiots, in terms which seem unequivocal. "A boy," he says, "for example, who is hungry or cold, whose instincts prompt him to seek food or fire, will do neither voluntarily, for want of the power to determine to do it; but will suffer for hours together the conflict between his natural cravings and his want of will to indulge them; but, when once moved from his seat by the touch of another, will seek, find, and appropriate what he needs. He will not play in the gymnasium, even when his muscles quiver with the native impulse to engage in sport, *for want of power to start*, but when once moved and directed is cheerful and happy. The want of volition is the ever-present barrier to his improvement." Sometimes the defective power, wherever it lies, can be brought into exercise by careful training. The teacher grasps the arms of the pupil, making him perform passive exercises, until in time he is led to exert himself to continue them. Here it is either the passive movement of the limbs, which by exciting a pleasurable sensation puts into the mind of the idiot the desire of reproducing it by muscular efforts, or the enforced exercise which calls into activity the dormant powers of the will. In any case the usual order is reversed, in accordance with a principle indicated by Laplace,<sup>1</sup> in his *Essay on Probabilities*:—"The principle of the connection of all the things which in an internal organ have had an existence either simultaneous or in regular succession, a connection which by the return of one thing recalls the others. To this fruitful principle are related a large number of phenomena

<sup>1</sup> *Essai Philosophique sur les Probabilités*, par M. le Comte Laplace, Paris, 1816, p. 227.

as well as the following principle. *If one frequently performs the actions which result from a particular modification of the internal organ, their reaction upon that organ may not only increase that modification, but sometimes give birth to it.* Thus, the movement of the hand which holds a long chain suspended is propagated through the whole length of the chain to its lower end. But if, the chain being at rest, one puts the lower end in motion, the vibration mounts upwards to the hand, making it move in its turn. These reciprocal movements become easy, and, as it were, natural by frequent repetition. This facility that the internal organ contracts is another principle of intellectual physiology."

Instances of astonishing strength of the will are not uncommon. A girl of twelve years of age wishing to attain any object generally exerts her whole muscular strength, which for her age is very great. If denied a thing she wants within her sight, she will rush at it with the most extreme eagerness in her countenance; the tears start to her eyes; she struggles, pulls, and kicks, but without ever saying a word, for she is mute. She is very fond of pencils, and an attempt being made to deprive her of one is resisted with her usual determination. Once, when I had occasion to give her chloroform, on her becoming unconscious I took away her pencil, which she had still clasped in her hand; but she noticed the want of it immediately on returning to consciousness, and looked round about her in search of it, with a distressed and anxious expression.

In normal infancy the use of the muscular apparatus is only gained in a slow and tentative manner. The child learns by degrees to grasp, and that if it relaxes its grasp for a moment the object will escape it. It learns to raise its hand to its mouth, to push, to creep, and to walk. This requires mental effort and attention as much as learning to ride, to skate, or to drive a velocipede; and as there are some people too stupid to learn to do these well, there are beings too stupid to learn how to use the machinery of the body properly. In general, idiots or imbecile children are awkward in their motions and slow at learning to walk. Out of 111 cases of which I have the report, the average time before the child began to walk was  $2\frac{1}{2}$  years. In making up this average, all cases where idiocy had commenced after the child had learned to walk have of course been omitted. Only five were stated to have begun to walk at one year. No doubt, the cause of this lateness in learning to walk is in some cases owing to weakness, in others to nervous disease; but there are still cases where the child always appeared strong and healthy, and the deficiency is really in the power of mental guidance. Idiots in general have a bad balance; and if this be tested by causing them to walk along a plank, it will be found that it is the most intelligent who succeed best. In the lower grades of idiocy the grasp is often very deficient. I have never observed instinct stronger in idiots than in normal children; often it is weaker, as when sucking is imperfectly performed or not at all.

Most idiots that pay any attention to sound have got some ear for music. Many can hum tunes correctly who cannot speak a word and cannot even understand speech. Sometimes we have cases who use the voice to imitate tunes, though they cannot be induced to use the voice to repeat words in order to communicate their feelings, desires, or thoughts, nor even to repeat words like a parrot. Such creatures sometimes show an extraordinary eagerness to listen to music. Some who can only repeat two or three words will employ them in various modulations to sing or chant a tune. In general idiots prefer easy music, but then their ear has seldom received much culture. Some sing very correctly, and have sweet voices. On the whole, it appears that in the mere taste for music idiots are little behind ordinary children. This is a subject of frequent remark amongst the parents of such children, who are apt to ground hopes upon the special gift, which are seldom destined to be realized.

If imbecile children are slow at learning to walk, they are still slower at learning to speak. The lower classes of idiots never learn to speak at all. Out of 103 cases of which I have notes, 36 were found mute on entry, and 67 could speak more or less. The average time at which they began to speak was 4 years and 3 months. Only 4 were noted as having begun to speak at 1 year. Sometimes they began to speak as late as 10 or 12. All these children could hear. It may be said of the greater number, that the reason why they could not speak was that they had no ideas to express. Speech is an endowment which demands the integrity of so many powers of the human mind that it is not surprising it should often fall into disuse in insanity.

In idiocy, as we have already observed, the gift of speech bears a pretty well-marked relation to the number and complexity of ideas; but there is a certain class who may be styled idiotic aphasics who remain obstinately mute, though it is clear they have more intelligence than other children who talk volubly—sometimes, indeed, they have so much intelligence that people doubt whether they are imbecile at all. I have seen three or four such cases. They all appeared to me to be imbecile children. If they were not so, they could be educated, at a deaf and dumb school, to express themselves by signs and writing, and might be expected to surpass deaf mutes, having the great advantage of being able to hear and understand speech. Idiots who are able to speak generally confine their remarks to the expression of simple wants and feelings. They prefer short words, and truncate the long ones. If asked to repeat several words, they often repeat only the last one or even the last syllable. The easiest abstract ideas are those where sensible qualities of matter are separated in the mind from the concrete objects to which they are attached, as in the notion of hardness or resistance, which is combined in the mind with that of shape or figure and colour, which also comprises two qualities, for the idea of

colour cannot be separated in the human mind from that of extension. Sometimes they can be taught to distinguish forms before colours, sometimes the reverse. Many idiots can be taught to distinguish colours who cannot be taught to name them. They can learn to thread beads of different hues without making any mistakes in the selection. In naming them, black and white are generally first learned, then red and yellow.

The idea of number is taken up with great difficulty, number being a purer mental abstraction than colour or form. The deficiency of idiots in this respect is certainly very striking. There is a boy at Larbert aged ten years, who knows all the colours and is learning the alphabet. He forms an estimate of the character of those around him, and has some sense of moral relations. He talks volubly on childish subjects, but is so deficient in arithmetical power that a year ago he seemed to have no conception even of a unit. He would say that he had three heads, touching his head several times with his finger. This was not because he wanted the word, for he could repeat the names of numbers as far as twelve at least, without any difficulty. This year, after much trouble he seems to have mastered the idea of two, and can count cautiously up to three. When he gets to four he is extremely perplexed. If one holds out five fingers to him, he will count "one, one, two, three, four, there is four," or at another attempt, "one, two, three, four, five, six, seven," and the sum total is declared to be eight. This boy is not without imagination. He is fond of arranging pebbles in a line to represent a railway-train, showing he can conceive of symbols. I never met with a single case of an imbecile who was expert in figures. Such cases occur, but they are very rare; even those who can read tolerably are deficient in arithmetic. To teach them to count at all even on the abacus or bead-frame, is a matter of great difficulty. With an amount of trouble which would be enough to form a senior wrangler out of an undergraduate, they may be brought to learn a little addition, subtraction, and multiplication, but very few can be taught division. To them indeed arithmetic is "the highest of the sciences."<sup>1</sup> There is something in the nature of our conceptions of numbers, and the manner in which in arithmetical calculations we can shift from ideas to words, and from words back again to ideas, which arrested the wonder of the first Greek philosophers. Pythagoras speaks of numbers as if outward objects were copied from them.

Dr Wilbur<sup>2</sup> gives a curious instance of an idiot, ten years old,

<sup>1</sup> Æschylus makes Prometheus say that he discovered to men numbers, the highest of the sciences:—

Καὶ μὴν ἀριθμὸν ἕξοχον σοφισμάτων

Ἐξήρην αὐτοῖς, γραμμάτων τε συνθέσεις,

Μνήμην δ' ἀπάντων μουσομήτορ' ἰργάτιν.—*Prometheus, Desmotcs.* l. 459.

<sup>2</sup> I take this from a pamphlet on Aphasia, by Dr H. B. Wilbur, Superintendent State Asylum for Idiots, Syracuse, N. Y., p. 29.

who could obey a few simple commands, and had learned the names of a few familiar objects. He was being taught the first ideas of number. "Our custom," says Dr Wilbur, "is to begin this before the names of the numbers are imparted. He was taught to string black and white beads alternately, then in pairs, and so on up to fours and fives, where the exercise is dropped, to be resumed again when the names of numbers have been learned. He, however, had fallen into the hands of a new teacher, who, not understanding the matter, had continued the exercise. I found him one day, to my surprise, stringing thirty-five black and white beads alternately. I found, on still further examination, that up to this point it was only necessary to indicate any number, by first placing them on the string, and then he would continue to alternate the required number without mistake.

"My first thought was, in the absence of the power of counting, he was enabled to do this by measuring on his string the alternate distances accurately. I found, however, that owing to a marked difference in the size of the beads, these did not correspond at all. I have no explanation to offer for this mental operation, but it seems to me that number was comprehended to the extent mentioned, without language."

I do not intend to pursue the subject much further in reference to the capacities of imbecile children who can learn to read and write, and understand some of the relations of number. These unfortunate creatures have a complete, though a weak, outline of all the human faculties. In their minds every species of mental operation is performed, though on a small and feeble scale, just as the child has all the muscles and nerves of the athlete. They fail in estimating the probabilities of daily life; they fail egregiously in self-knowledge. Fortunately for them, they have seldom any idea of the gifts which nature has denied them. An imbecile boy would get on the back of a horse which would hurl him to the ground in a moment; another who can scarcely read, will ask to be educated for a minister. One of our boys who can read tolerably, go messages, make brushes and other work, once told me that he would like if I could get him to be either a clerk in the telegraph office, or a railway signaller. This natural feature in the character of idiots has been finely touched by Madame de Gasparin in her pathetic story, "A Poor Boy." "However badly he might succeed, however little he might please others, he was no less in his own estimation—always the right man in the right place. It is true that when he took up a mug, he might often chance to break it; if he moved a chair, it was a thousand to one but he let it fall; if he lighted the fire, he would be sure to blow the cinders into the porridge-pot; and when he tried to feed the cow, he would infallibly have put out her eye with his fork, had not the worthy animal, familiar with his ways from childhood, invariably turned away beforehand. Yet nothing daunted or dismayed him."

Imbeciles are generally credulous, and often unsettled in purpose; have got little capacity for any abstract line of thought, and could not follow a complex chain of reasoning; but I do not know of any power which existed in the mind of Shakespere or Napoleon of which they are totally destitute. They may have a poor judgment, a weak memory, a feeble power of comparison, a beggarly imagination, a fitful attention; but they do possess judgment, memory, comparison, imagination, and attention, in varying, though in meagre, proportions; and all these can be educated and increased by exercise.

Some seem to think that training-schools should confine their attention to the higher classes of idiots—what are called imbecile or weak-minded children—and that the lower grades of idiots are so little educable that trouble is thrown away upon them. This is a view which a man who has made an incomplete study of the subject might very readily take up. He would not likely notice small improvements, and would demand some tangible or crucial test, such as learning to read, to work, or to earn wages. Now, we may be unable ever to convert a solitary idiot into a simple weak-minded individual; but I am not the less convinced that the improvement on the lowest class of idiots is often relatively greater than in the higher. This appears sometimes to be accompanied by training alone; but oftener by training combined with more favourable hygienic conditions, diet, and medical treatment. I could readily produce instances of this, had the time which I am using not been so much occupied by my immediate subject.

It will be understood that this improvement is in the habits of daily life—in cleanliness, order and propriety, and in speech; but rarely goes the length of much progress in reading or writing. However trifling these changes may appear to those who only deal with matured beings, they are commonly greeted with much thankfulness by the parents of the children, who, with the exception of the intelligent inmates of the Institution, are the only parties fully competent to form a judgment.

It must, however, be borne in mind that, as a general rule, the lower grades of idiots require more trouble expended upon them. In many cases, too, all attempts at training are unavailing. The number of total failures, where no visible improvement followed all attempts at education, has been estimated at no higher than six per cent. It strikes us, it would require a larger staff of teachers, and more unwearied patience than is generally to be had, to make good this statement.

Sometimes the teacher in an idiot school finds that what he has taught his pupil is totally forgotten—fading gradually or suddenly away out of the mind. This is most common in epileptic idiocy after renewed fits; but occasionally it is noticed in other forms of idiocy, without any accompanying symptom. It may thus happen that the same lesson has to be taught three or four times over.

We meet with idiots and imbeciles of every kind of temper and disposition. Most of them are merry and good-humoured, completely free from care, and, if well treated, lead an easy and happy life. Some, however, are gloomy and irritable, though their resentment is little to be dreaded. We now and then hear of dreadful crimes committed by idiots; but this is generally because they have received no training, and have been exasperated by ill-usage. In their mental and moral qualities they resemble children more than lunatics, and, no doubt, children would do serious mischief if they had the strength of grown-up people, as idiots sometimes have, and would come to do serious crimes if their education were totally neglected, as is so often the case with idiots. In general, puberty is late with idiots; in many cases its manifestations seem feeble; in some cases it does not appear at all. But when it does come, it excites in the minds of idiots, especially when they are healthy and vigorous, desires and feelings unknown to children. Its arrival demands increased care, especially with females.

In the Report of the Commissioners in Idiocy to the General Assembly of Connecticut,<sup>1</sup> we are told that—

“In a neighbouring State, some years since, an idiot girl, being left alone with an infant, killed it by striking it on the head with a flat iron. Since that time that girl has had the advantage of four years’ instruction in an asylum for idiots. She is now nearly sixteen years of age, and a more gentle, kind-hearted creature does not exist. She has learned the history of the meek and suffering Jesus, and she seeks to imitate His example.

“In our own State, a vicious idiot, some years ago, killed a man who was working with him, by striking him on the head with a shovel. Another was guilty of a very heinous crime, the result of his ungoverned lust. Another still, under the influence of experienced and daring villains, aided in a scheme of robbery and murder. These poor imbeciles were unconscious of guilt in the commission of these crimes, but society was none the less the sufferer, and life and person and property were rendered insecure, because these poor outcasts had not been instructed and controlled in their youth.”

It is a common observation, that many of the criminals in our jails belong to the imbecile class; their natural stupidity and insensibility being all the more confirmed that all their training and habits have been towards crime.

Idiots and imbeciles seem to be much more expert at taking up moral relations than one would suppose from their other deficiencies. They attach praise and blame to particular people and particular actions. They are accessible to pity, and still more so to affection. The better classes of imbeciles can often be induced to make considerable sacrifices for the happiness of others, giving away, for example, things which they like, and preferring the pleasure of seeing others enjoy them.

<sup>1</sup> Newhaven, 1856, p. 14.



The distinctive features of the male and female characters are observable amongst idiots. Female idiots are distinguished for their fondness for children, their love of finery, their greater gentleness, and more impressionable character.

Special talents in idiots have excited considerable attention. It will readily be conceived, that in training-schools they should have got a very careful cultivation, and while they have been cultivated the other faculties have been frequently neglected. Thus, the disparity between the special cultivated talent and the other faculties, which are not only weak but neglected, is made very striking. There is a story of one Gottfried Mind, who was said to be a cretin more or less imbecile. He was so skilful in drawing pictures of cats, that he got the name of the "Cats Raphael."

The following information about him is taken from a note to a story in a popular periodical called "Chatterbox":—

"Mind died in the year 1814, in Frau Frendenberg's house, in Berne. There are old men still living in that city who remember the poor cretin painter—the 'Berner Friedli,' as he was called, or oftener still, the 'Katzen-Raphael.' Many of his drawings and paintings are to be seen in picture galleries in England, Russia, and Germany. Pictures representing groups of cats are frequently sold for Mind's, which are really only copies. Genuine Minds are very rare, and difficult to obtain."

There are instances of idiots of a low type who could be taught to draw correctly enough from a copy, but to paint even cats in different attitudes with skill and expression obviously requires the vigorous exertion of several mental qualities. It would be interesting to know the grade of imbecility and mental characteristics of this artist. If one considers that men of special genius are sometimes much behind other men in very commonplace qualities—of this Mozart is a striking instance—it will not be out of measure surprising that some imbeciles should be highly distinguished above other imbeciles by some special bent or talent. It strikes us that a constructive or mechanical turn is more frequently preserved amongst idiots than any other gift. Unless we are mistaken, this is also true of lunatics; for we have been several times much struck by seeing lunatics construct or invent machines requiring both thought and attention, who from their conversation seemed incapable of any consecutive mental effort. At any rate, there are idiots who have shown a remarkable aptitude for constructing articles in wood, for music, drawing, and even for arithmetic. Seguin, in his book on Idiocy,<sup>1</sup> gives an account of a blind idiot who has a remarkable talent for playing on the piano, and for repeating tunes which he only heard once. Dr Forbes Winslow<sup>2</sup> quotes a case of a man who could remember "the day when every person had been buried in the parish for thirty-five

<sup>1</sup> P. 405.

<sup>2</sup> *Obscure Diseases of the Brain and Mind*, London, 1863, p. 586.

years, and could repeat with unvarying accuracy the name and age of the deceased, and the mourners at the funeral. But he was a complete fool. Out of the line of burials he had not one idea, could not give an intelligible reply to a single question, nor be trusted even to feed himself."

Griesinger<sup>1</sup> has noted a remarkable memory for places in idiots of a low mental capacity. This is also noticeable in horses. When Cardan<sup>2</sup> wrote that the horse surpassed man in memory, he must have referred to this particular exercise of it.

We have only two cases in the house of special talent: one is for drawing and carving in wood, the other is in a boy who pays special attention to the architecture and construction of the house. A boy at Earlswood is stated to have the gift of mental arithmetic. "He adds together and multiplies three figures by three figures, giving the product with lightning rapidity." There is a man who is weak-minded or imbecile, who constructed a very elaborate model of a ship, which is in the entrance-hall at Earlswood. I believe it was overmasted and upset when put in water; but I saw him at work upon a model of the Great Eastern, which he was building plank by plank in a very correct and systematic manner. We also saw a grotesque old fellow who reads imaginary articles out of the newspapers, some of which are said to be very funny.<sup>3</sup>

Foderé, in his work upon Goitre and Cretinism, speaking of cretins, remarks,—“Several of these individuals, endowed with so weak an intelligence, are born with a particular talent to copy drawing, for rhyme, or for music. I have known some who have learned of themselves to play passably well upon the organ or harpsichord; others who learned, without any master, to mend clocks, and to make some pieces of mechanism. That probably arises from a more perfect organization of the organ on which such-and-such an art depends, and not on the general understanding; for not only are these individuals not able to read the books which treat of the principles of their art, but they are put out when one speaks about it, and never arrive at perfection.” Foderé, in these remarks, evidently refers to what he calls *demi-cretins*. The occurrence of special talents in idiots does not on the whole prove any more for the specialization of the faculties in the different parts of the brain, than the occurrence of special talents in sane individuals.

In speaking of the intelligence of cretins, says the Sardinian Report upon Cretinism,<sup>4</sup> “We may here recall a peculiarity especially pointed out by Maffei, and common to almost all those unfortunates—the total suspension of almost every mental act during several hours,

<sup>1</sup> On Mental Pathology and Therapeutics, translated by Drs Robertson and Rutherford, p. 371.

<sup>2</sup> “At eum in cæteris animantibus et superior homine memoria sit velut in equis.”—Cardanus de Consolatione, lib. ii. p. 35.

<sup>3</sup> Op. cit. § lxxii.

<sup>4</sup> P. 37.

and that periodically, several times in the day. During these attacks the cretins remain with their eyes open and fixed upon the sky or on some object, without moving the eyelids; the mouth open almost without breathing, and without giving any sign of life. To see this immobility, this passivity of physiognomy, one would say that the soul had entirely left the body—in fact, a similar absence of all emotion in the countenance gives room to think that there is neither consciousness nor life within them.”

This singular condition cannot be very frequent in cretinism, for it is rarely described by writers on the subject. I do not remember of anything of the same kind being noticed in the other forms of idiocy.

