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PSYCHO-PHYSIOLOGICAL TRAINING OF AN IDIOT

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IT is only within the last thirty-five years that any steps were taken in this country to educate idiots and imbecile children. Before that period they were left to grow up a source of great anxiety and care, and it was thought impossible that their condition could be improved; and nothing indicates more fully the onward progress of civilization than the care which is given in many States to the education and improvement of these unfortunates, who were once condemned to a solitary and miserable life.

Experience has proved conclusively that idiotic children can be educated, treated, improved, and cured, by a course of physiological training. It is perfectly useless to attempt to teach these cases by taxing their memory, or by stimulating their feeble reasoning powers. They must be taught through their perceptive faculties, and all success depends upon strengthening their imitative gifts, their attention and affection.

La Place in his *Essay on Probabilities** says: "If one frequently performs the actions which result from a particular modification of the internal organ, their reaction on that organ may not only increase that modification, but sometimes give birth to it." This is the object of the physiological training. By means of passive exercises, the pupil is led in time to exert himself, perhaps unconsciously to continue them. The whole sum of human culture consists in observing sensations and drawing inferences from them. In the normal child there is a spontaneous evolution of the faculties, but in the idiot, the senses have to be trained before any intelligence is manifested. There may be a deficiency of nervous or muscular power, or stupidity and incapacity to direct the complicated machinery of the human body. The nerves of the human body enable the mind to translate the impressions of the world into facts of consciousness and thought.

In the treatment of idiotic children, it is absolutely necessary that the peripheral organs, the special senses, and the cutaneous and muscular senses must be carefully treated or educated, in order to reach the mind. The instruction must be given through the perceptions, the repetition of every task must be constant, and one thing must be well understood before another is attempted to be taught. This is the foundation of the physiological method. Persistent efforts must be made to diminish the torpidity and irritability, the attention must be developed, and some degree of ready obedience must be obtained. This requires great forbearance, kindness, gentleness, and perseverance on the part of the teachers.

Emily S. was nine years of age when she came under our observation. She seemed more fully developed than the majority of idiots. The cranium was symmetrical. The contour of the face was regular and pleasing, with the exception of a large mouth. The eyes were dull and constantly roving about and it was impossible to fix her attention. She had but little control over her muscles, no matter in what position she was placed. If placed in a standing position she would remain for a long time, and if gently pushed she would move along by sliding her feet upon the floor.

* *Essai Philosophique sur les Probabilités*, Paris, 1816, p. 227

She had no mind to use her senses any more than an infant. If food was placed in her mouth she would swallow it, but seemed to have no sense of taste.

The digestive organs were in a very poor condition. She suffered alternately with diarrhœa and constipation. If any object was placed in her hand she would drop it. Through some defect in the nerves communicating between the ear and the brain, ordinary sounds failed to disturb her, although a loud noise made unexpectedly close to her ear would cause her to move her head. But she had never learned to interpret the sounds of the human voice into a living language. If she was pricked with a pin on her hands or feet, she would scream but would not move them. She very rarely shed tears. She was unable to speak, but when angry she would utter piercing screams. Her instincts and intelligence were far below those of an animal. She seemed to lead a purely vegetable life. This surely was not a very inviting case, but it was one of those cases in which it was necessary to reach and develop the mind through the medium of the senses. In all imbeciles there is a striking want of coördination in the muscular system, and our first effort was to overcome this mutiny of the muscles, and by a process of development we hoped to improve the nutrition of the central nervous ganglia themselves.

Emily was first placed with her back to the wall, and her knees so that she could not bend them, then her feet were gradually drawn forward until her position became uncomfortable, when she was restored to a more comfortable position by pushing them back.

This was tried again and again, until she finally to relieve herself began to draw back first one foot and then both feet. The next exercise was to have her walk on a spring-board until she learned to a certain extent to raise her feet, and then on some blocks elevated a few inches from the floor. It took her many days to learn to step from one block to another, at first with assistance and then alone. On the floor she would have slid her feet, but here she was obliged to step or else fall. She was then required to walk several feet on a narrow plank with head erect. These exercises occupied several weeks, but a great deal was accomplished.

Emily had acquired confidence in herself but still it was necessary to compel her to walk, as she would not do it of her own impulse. The next exercise was to put her hand under control of the will. Emily's hands were small, and, what is not often the case with idiots, soft and plump. The fingers were unable to grasp anything, and she could not employ her hands in any useful manner. All movements seemed to be from the wrist. A systematic course of exercises was commenced to educate the hand, and through the sense of feeling the brain. Says Dr. Seguin:* "We are so used to locate idiocy in the brain that the idea of an *idiotic hand* seems, at first enunciation, like a grammatical blunder. But we become reconciled to the idea the moment we see the mutual dependence of the centers and the periphery, with a greater possibility of acting on the centers from the periphery, than on the periphery from the centers, at least in the period of growth."

As Emily could not grasp anything, a ball was placed in her hand, and they were both enclosed in the teacher's hand. It was a long time before she would hold the ball until commanded to drop it. She was also exercised in catching a small bag of beans which were thrown

* Psycho-Physiological Training of an Idiotic Hand. Archives of Medicine, October 1879, p. 155.

a short distance. She was then put in front of an inclined ladder, her feet on a round, her hands on another, but it took weeks of practice before she would hold on without assistance. In the meantime she was made to observe what was round, smooth, angular, sharp, and so on, and that a ball would roll and that a smooth object would slide. The function of motion demands a distinct volition, while the sense of touch is automatic; this is the reason why a defective grasp is more common with idiots than a defective sense of touch. Emily could grasp the hand long before she could hold a pencil. It was necessary that there should be a coöperation of the sense of touch and that of vision, in order that the pupil might see what she wished to handle, and that the hand might become the conscious assistant of the eye. Emily was taught to watch the hands of her teacher, and her own hands, and a number of brightly colored sticks were placed before her and she was required by a great deal of patient teaching to take up one stick at a time of the same color as the one used by the teacher, and putting it into a similar position to his. But the most difficult matter was to teach her to speak. Some idiots who are very deficient in mind can often speak and sing, while others with considerable powers of attention and mental perception are unable to use their voice. The greater number of those who remain mute do not speak simply because they have no ideas to express. As their mental faculties improve words come; therefore it is necessary to cultivate their perceptive faculties.

Thus far all of Emily's instruction had been by imitation; no words had been used. These oft repeated experiments had slowly improved the sense of sight, quickened the movements, extended the range of perceptions, given accuracy to the understanding, and put parts of the body under control of the will. It was a long time before she could be prevailed upon to say *ma* and *pa*. After she had acquired the capacity of imitating a few words it did not take long for her to pronounce the vowels, but the most persistent training failed to get her to use words unless by imitation. In four months practice she could speak some twenty words distinctly. She has considerable control of her face, and when ordered can bring her lips together. The walk is easy without any swinging or shambling. When commanded she would raise her hands and pick up objects from the table when told to, but the most marked improvement was her ability to string buttons on a brass wire, first a large button and then a small one, and so on, and also to place blocks one on the top of another until four or five rows had been made.

In various ways she showed that her reflective faculties had been considerably developed, and she has more the appearance of a backward child than of an idiot. During Emily's treatment great attention was given to her diet, as it was made to consist of a fair proportion of nitrogenous elements, and also rich in phosphatic and oleaginous constituents.

The training of idiots has to be carried out in minute detail, so that every voluntary muscle and every congeries of muscles shall be called into action and trained to fulfill with rapidity the end for which they are designed. Teachers are apt to follow the old plan of crowding as much into a child's brain as is possible in a given time, without considering, or taking into account hereditary defects, abnormal temperaments, constitutional dullness or precocity, and such other abnormal conditions as prevent many children from keeping up with the more favored and precocious children.

