

A TYPICAL CASE OF ONE OF THE FORMS OF SENSORIAL IDIOCY.*

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THE present paper is the study of a living case of what was named, in 1843, *Superficial Idiocy*.[†] Dearth of observation has since prevented the further elucidation of this interesting subdivision of our subject.

Geo. C. P., now fourteen years old, was born in Boston during the American Civil War. His mother, when pregnant, felt some anxiety for friends in the field, but does not think it had any influence on the child, who was born healthy and considered the most promising of three children till two years old. Then, the first anomaly she noticed was an oscillation of both eyes. Previously, he seemed to have heard well, but not since. He was beginning to speak; then he stopped quite suddenly. At that time, too, he was beginning to walk quite steadily; but, as he could not see things unless very near, he would stumble over, and on going out hurt himself against the door-posts, etc. Once he had a fall down a flight of stairs, bruising his right shoulder and the right side of his face. The bruise was not open, nor the top or the back of the head apparently hurt. After a few minutes, he did not complain, and was not laid up with it at all. The mother is quite sure that this injury preceded the abnormal symptoms she soon afterwards noticed. About this time, he became restless at night; would get out of bed, and play about the room or in the next with his hobby-horse in the dark.

During this winter, he had an eruption on the face, looking like feversores, after which he became much better, so that in the spring he became fat and healthy-looking, not so restless at night, and finally not at all. He seemed to become anxious to learn, but his hearing and eyesight continued defective. He used to call things by names of his own, calling a chair a sit-down, etc., as a little friend of mine, when seventeen months old, called her collar her *neck*, a cat a *mieau*, and, when twenty, a hen *caco-egg*, a cow *dada-milk*, etc., by two infantile processes of nomination found at the origin of all languages. Therefore, the use of such words by Geo., when about four years old, shows him to have been at least two years backward.

Though he improved physically, he was at times puny, at times healthy; in the cold weather, his condition was better. He had no difficulty with his urine or bowels until four or six years of age. From six to eight, he had nocturnal incontinence of urine; but this disappeared under treatment. During this time, Geo. had pain in his head. His mother says his forehead was contracted at times, as if he were suffering from headache. As he grew, he became slim, with a long narrow head.

At the age of five, he went to a Kindergarten, where he learned to draw, and he has continued ever since, amusing himself principally in drawing on the black-board, but not on paper, his eyes forbidding. During this time, if at all startled, his head would rotate from side to side and his eyes would oscillate in their sockets.

He was always under the most watchful care. Attempts were made to use a deaf-and-dumb alphabet at the time when it was found he was making no progress in learning to speak. In this

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[†] See *Hygiène et Education des Idiots in Annales d'Hygiène et de Médecine Légale*, tome, xxx, pp. 59-112, and 265-320. Paris: 1843; and *Traitement Moral, etc., des Idiots*, vol. i, p. 734. Paris: 1845; etc.

organographic alphabet, all words commencing with certain letters were indicated by certain signs, as M, by putting the finger in the closed mouth; N, on the side of the nose; L, near the eye. Otherwise he could not distinguish, by the little he heard, the sound of these three letters, nor hard G and K from D and T, for which some mnemotechnic indication was given him by touching the parts whence the vocals had to come, as the nose for the nasal sounds, or the chest for the aspirate, etc.

All the teaching has been at home, except during four or five years in Germany, where a lady taught him to write, the common rules of arithmetic, something in grammar and geography, and general information. There he was under the care of Niemyer of Tübingen, who recommended to do nothing until his general health was restored and his intellect developed. Frölich gave no opinion, but was anxious to try some experiments on him for a month: the mother declined. She had already begun to educate Geo. on a plan of her own. As he could neither read nor be read to extensively, nor ask many explanations, nor hear much, nor see distinctly and afar, she determined to bring near him the world of facts and knowledge which his mediate senses could not grasp. She chose to do it in two ways: one by travels, transporting him where he could perceive what she wanted him to know and understand; the other, by substituting in his training the exercise of the immediate senses for that of the mediate senses.

Seeing him separated from the world-as by two veils-by the dulness of his vision and audition, yet in contact with the two most immediate senses, the tact and the smell, which afford great and many valuable certitudes, his mother took him literally by the hand, in order to make him feel and smell what he could not hear and see: in Germany, to, breathe the atmosphere of a tranquil life; in Italy and France, to touch the monuments of art and the produces of industry; in Switzerland, to comprehend the Alps by the smell of the glaciers; here, again, to feel the home of his birth and the caresses of relatives.

But other obstacles came athwart these undertakings. If it was difficult to reach the mind of Geo through the imperfection of the two most intellectual senses, it was fully as difficult to ascertain what his ideas were, if they were correct even if he had any, since he expressed himself almost incomprehensively with his unmanageable voice and unconscious articulations. This latter difficulty became in some manner aggravated during the course of education, when, passing from one country to another, he had to forget his English for German, and to learn his mother tongue again of late. I know this feat is not impossible to ordinary idiots, because, if their mind is narrow their ears are wide open, and there is much more of automatism than of true intelligence in what is called the faculty of language limited to the wants. But the incapacity of Geo. was of the inverse order: he would have comprehended and retained words enough, if he could have heard and articulated; and a mother's perseverance was much needed to thrice teach him to speak through defective and unfeeling organs.

Barring these difficulties of perception and of expression, Geo. was making progress on all other points. His health had become really good; his head and bladder did not trouble him; his complexion was clear; his face was bland and sweet, expectant or inquiring. His movement, somewhat jerky and tumultuous when he wanted to show [p. 441] eagerness, was rather hesitating and slow at other times. His hands, remarkably long and well shaped, were not ordinarily awkward, but and, if searching with a desire, tremulous. When at work, one of them usually helped the action of the other by throwing its feelers around the object of his intended operation or study. His neck was large; his body very tall of his age, so much so that, partly from hasty growth, from having to speak to people smaller than himself, and from the necessity of looking very close at things to see them, his body had already contracted a stooping bend.

Such were the reports kindly prepared for my perusal by Dr. Satterthwaite, and such appeared to me the condition of Geo. when his mother consulted me. It was in the middle of 1876. His general health, appetite and activity were good. He was fond of drawing; used tools; made things about the house, coarsely indeed, but carefully, as mending chairs, putting on bolts, also attending to flower-

beds, shovelling snow, sawing and splitting all the wood used to the house, etc. He was swift on the tricycle velocipede, an amateur of games; kind playmates, who in return were considerate to him, instead of bantering him on his infirmity and his bad English, as children usually do.

Taking charge of him, I did not forget that he had, and has yet, the best of teachers: one whose intelligence of his case is equal to her tenderness. With her, it was easy to carry out the plan originally traced by Niemeyer; the more so since, in the management of idiots, I always study the signs of vitality first and later measure on them my demands on the activity. Therefore, I simply advised the mother to continue to educate her boy as she had begun under the great master of Tübingen, watching, in the meanwhile, any opportunities of introducing such physiological means of education as observation would warrant. The anomalies of function were evident enough in Geo.; their beginning could be traced to or soon after a fall; their period of aggravation from two to five years, when his head became narrowed and elongated. But how far was the sensorium commune affected by this pathological alteration of form? Did it become deficient *per se* in the ready and judicious use of stored impressions, or from the effects of the paucity and vagueness of the impressions transmitted? In other words: Were the hemispheres simultaneously affected with the sensory ganglia? This could easily be ascertained on the cadaver; but on the living, the road such an analysis is more circuitous, though perhaps no less sure.

Externally, his head is of good average size, but narrow, from ear to ear elongated in its anteroposterior diameter, with a sort of protuberance rising between the brows, as seen on infants whose frontal suture undergoes a pathological growth. The base is, on the contrary, depressed the parietals developed mainly upward; the forehead, without force, tends rapidly backward, and merges into the vault-line of the skull, which constitutes, with the face-line, a profile Egyptian in type, if not in purity. This form, sphynx-like in more than one sense, gives, however, a clue to lesions which the scalpel alone could vex, but which induction can prelocate at the middle and anterior of the base of the brain, where lie the centres and leaders of intellectual perceptions.

On the other hand, three-parts of the head of Geo. are, externally free from deficiencies of form; the frontal and nasal sinuses, the crown of the head, and the occiput, allowing ample room for their reputed functions - the olfactory, the intellectual, and the coordinated movements. At any rate, other heads which do good Intellectual service present less harmony in these parts than the one under consideration.

Now, let us test this head by the two tests which are in our power: physiological education and experimental physiology.

Our case gave many opportunities of testing the perfection of some organs and the imperfections of others during operations which give, for primary product, impressions; for secondary, ideas; for tertiary, embodiment of ideal in creations. For example: A solid model given to Geo., say the cast of an animal, which he will have to reproduce in trait (its portrait.), he tries to see it, but cannot by his poor sight alone form any other idea of it than that of a vague image. This general impression making him certain of the reality of the object (but of no more), he wraps it in the ample and delicate circumprehension of his left hand, as in a network of feelings; and from this tactile survey derives a general notion of its forms, and of the relation of these forms to an ideal animal. (At this stage can be seen on the features a notable pose of the mind, as in the act of storing and crediting that impression in the form of an idea.) His next move is to survey lines which circumscribe or delineate the ideal, commencing by the highest ones. In this third operation, he does not use his eyes at all, his hand as a whole, nor its palm as before; but the pulp of his fingers, of one, two, or three, according to the size and contour of the object to be surveyed, adding the pulp of the thumb in apposition, so as to make a *compas-d'épaisseur* whenever he wants to measure thicknesses.

This whole survey is made by the left hand quite rapidly for a boy who is slow at almost everything else, at the same time that his right hand elaborately draws the line as it is perceived by his left. Then comes a pose, during which he tries to see if the work of the right correspond to the ideal transmitted to the cerebrum by the left. It generally does correspond so far as the trait is

concerned, and oftener it does not in regard to the direction from which will depend the relation of the parts and the attitude of the figure, showing conclusively that the mental operation was correct, but the means of execution, sensory and muscular, defective. Moreover, as soon as and as far as he can see the mistake, he defaces the trait, and retraces another in accordance not to the last localised feeling, but to the first notion he acquired from the ensemble or unity of his model.

Thus, as he progresses in his work, whenever Geo. wants to trace a line, he uses first his left fingers to feel its strength and form, and, whenever he wants to coordinate several lines, or a new one to some previous ones, he spreads again over the model his whole left hand, to study their direction and ajustage. This conception is executed by his right hand, through his intellect, with a will and intent to be accurate; and he succeeds so far that, whatever can be the coarseness of the execution, it always bears the intellectual likeness of the ideal.

I beg to note also that in all this his left hand, capable of surveying the lines of a solid body or a cast, was powerless to follow the lines traced by the right on a plan on the black-board. He, therefore, was obliged to use his very imperfect sight to control the doings of his right hand, at the same time that he had to rely on his sense of tact for the comparison of his ideal with his solid model thence for its execution.

This multiplicity of instruments, and complexity of sensory and mental procedures, added to the natural imperfection of the former and to the consequent inferiority of the latter ; this alternate use of the eye and hands, of the left as a feeler and of the right as an executant; of the eye again as a judge of plane images, though it could not estimate the contours of solid objects, beset the boy with difficulties of observation and of execution, such that his mind must be declared unimpaired, while progressing in spite of so many obstacles thrown on its way by its natural helpers.

Nevertheless, Geo. continues to improve. He hears and sees better every year; but worse idiots than him learn to see and hear better than he does. Is it to be said that the signs and symptoms of idiocy are futile, unreliable, as not corresponding to the gravity of the affection ? Not exactly; but that the best guides to diagnosis and prognosis, in idiocy, are not so much in the gravity of the incapacity as in the importance of the organs whose affection is indicated by the wreck of definite functions. In the case of Geo., the atrophy of the organs of two senses, and the partial paralysis of those of speech, are demonstrated by the imperfections of sight, hearing, and language, as the sanity of his intellectual centres is demonstrated by the accuracy of their functions, whenever they are set in action by the operation of the senses which have remained unimpaired.

The distinction resulting from the study of this case is important, since it throws a light on the condition of many children who are in turn, refused admission in institutions for idiots because they are considered practically blind or deaf-mute; and are ejected from the blind or deaf-mute schools as idiots. M. Magnat, Principal of the Pereire School of Paris, recently rescued two such children from this form of sensorial idiocy.

Let us now pass to the evidences furnished in support of this possible causation of this form of idiocy by physiological experiments, mainly by those of B. Gudden, Director of the insane Asylum at Munich, described in his *Researches on the Development of the Cranium*.

These evidences are of three orders.

I. – *Influence of the Organs of the Senses on the Growth of the Cranium.*

a. If the functions of the olfactory nerve on one side in a newborn rabbit are arrested by the stoppage of a current of air, its corresponding bulb becomes atrophied, and the opposite nerve and bulb become excessively developed. Correspondingly, the cranium will have thickened around the atrophied nerve and thinned around the hypertrophied one. Persons early deprived of an eye show retraction and thickening of the corresponding orbital bone, which causes a shortening of the same side of the face.

b. By taking away one of the retinae of a new-born pigeon, the corresponding nerve and optic lobe become atrophied; and when the animal is afterwards sacrificed, the part of the cranium contiguous to the atrophied part is double the thickness of the opposite side.

c. Enucleation of one eye produces analogous effects on the arch [p. 442] of the orbit (arcade orbitaire), which thereby deviates below and inside.

II. – *Action of the Lobes on the Cranium.*

a. Two or three days after the birth of a rabbit, the superior part of the left hemisphere was taken out; the bones were brought together and united closely; the brain began to grow up from its lower lobes in the space thus left empty, and the base of the cranium of that side took part in that upheaving, at the same time that the vault of the cranium lowered itself to join and close to with the diminished brain. Many cranial depressions may be referred to a similar process of repair and adaptation.

b. More remarkable yet is the result of extirpation, not merely of a part of a hemisphere, but of the whole. After four or more weeks, the animal being killed, the depression of the cranium is more marked than in the partial operation; and the space or vacuum, instead of being filled by a *poussée* of cerebral matter from below, is occupied by a mass of serosity.

III. – *Action of the Cranium on the Brain.*

a. In some American Indian tribes, among the more civilised Peruvians and Mexicans, in some departments of France, even to this day, the head of the new-born is compressed between boards, or by bandages, manipulations, and other practices. Happily, the brain, receding to some extent before the local pressure, undergoes in another direction compensatory expansions which prevent the atrophy of the brain and its worse psycho-physiological consequences.

b. On the other hand, the abnormal enlargement of the cranium, consequent on excessive training or straining of the brain, and its sequels of acute meningitis in the young and of softening in the adult subject, are too familiar to delay the conclusion of our main idea, which may be summed up, without concession to a hypothetical phrenology, in these terms : The brain and the cranium are from the beginning modelled upon each other, and subsequently the form of the cranium continues to influence that of the brain, and the *poussées* or the *collapses* of the brain continue to influence the form of the cranium.

From these three sets of experimental evidences, and from the previous physiological observation of our subject, we cannot hesitate to conclude that the lesions are located behind the basic and lateral depression witnessed by his mother ; that the corresponding ganglia and nerve-expansion of audition and vision are affected ; that the other parts of the brain are sound; and that his idiocy or isolation is of sensory origin.

I brought this case to your appreciation, Mr. President, not because it is unique, or even rare; on the contrary, because it is typical of a large class of sufferers from a wrong diagnosis. I choose to call this *isolation of the mind from the world by lack of intervention of the senses, or sensorial idiocy*; because – 1. It distinguishes well the effects of sensory isolation from those of defective hemispheres or mental idiocy; 2. It opens the way for a subdivision of sensorial idiocy: (a) by *organic defects* of some of the sensory apparatus, of which I present Geo. as the type; (b) by the *functional incapacity* of some sensory apparatus (dormant function), of which Robert (*Obs.* xlviii, on *Idiocy*, etc., page 422) is a good example ; (c) by *restraint*, inflicted previously to the acquisition of the sum of perceptions sufficient to constitute the minimum stock in trade of knowledge of an ordinary mind, of which Caspar Hauser was the most conspicuous martyr.