A Case of General Paralysis, with Examination of the Brain, Medulla Oblongata and Spinal Cord. By J. Lockhart Clarke, M.D., F.R.S., &c.

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This case was in the Glasgow Royal Infirmary under the care of Dr. Gairdner, who sent me for examination portions of the cerebral hemispheres, the pons Varolii, the medulla oblongata, and spinal cord. The following were the chief and most prominent symptoms:—

Imperfect articulation and swaying gait, characteristic of General Paralysis of the Insane, inequality of pupils, well marked delusion as to the origin of the disease; acquired habits of lying, swearing, and stealing.

The patient complained of pain in the head, about the vertex and forehead, with slight pain in the back and in the thigh. He appeared stupid and dull, with a tendency to delirium; the pupils were rather unequal in size, and both imperfectly sensible to light. There was slight prominence of the 8th dorsal vertebra with some pain on percussion. His articulation was somewhat impaired, and his gait was rather unsteady, particularly when he endeavoured to turn a corner; but he stands the equilibration test very well.

Such was the substance of notes reported by Dr. Gavin P. Tennent. To these Dr. Gairdner, eighteen days later, added the following:—Mental unsteadiness, if not positive delirium. The patient talks in an exaggerated way about trifles, and is addicted to bad language on very slight provocation. He talks about going out, and says there is nothing the matter with him. His gait is unsteady, with a lurching movement on one side, as if in liquor, but with great boldness, and even with a buoyant, bragging way, at times hastening into a run; but he does not appear to be conscious of this imperfection. The impediment in articulation seems to be on the increase. "It consists," says Dr. Gairdner, "of no particular fault in the utterance of any particular sound, but a liability to hesitate over all sounds, vowels and consonants, especially the latter, but yet not amounting to stammering, rather a character of indecision, as if for a moment he had forgotten the word; but yet not having forgotten it, as he always brings it out correct." The right pupil is at least one-third larger than

the left. From the time these notes were taken the patient got gradually worse, became amauratic and died.*

The portions of the cerebral hemispheres sent to me for examination were taken chiefly from the vertex. In these I found appearances of a very remarkable description; for on making slices with a very sharp instrument through the convolutions, their central white substance presented numerous cavities, of a round, oval, fusiform, crescentic, or somewhat cylindrical shape, and varying from the size of a small pea, or a barley-corn to that of a grain of sand; so that the surfaces in some sections strikingly resembled the cut surface of Gruyère cheese, while those of others had more resemblance to a slice of the crumb of bread. In fig. 1, at *a*, *b*, and *c*, groups of these cavities are represented in their natural positions, and of their natural size. For the most part they were empty, had perfectly smooth walls, without any lining membrane, and seemed as if they had been sharply cut out of the tissue. A few, however, were found to contain what appeared to be the remains or the débris of blood-vessels mixed with a few granules of hœmatoidin. Some of them extended to a considerable depth, while others, chiefly of largest diameter, were very shallow. One or two of these (as at *d*, fig. 1) were found to communicate with the surface of the convolutions (*e e*) through the natural fissures between them, and to contain a perfect blood-vessel (*f*) with its branches. On removing the blood-vessel the wall of the broad but shallow cavity was seen to be perforated by a multitude of minute orifices through which the finer branches of the vessel had passed. These latter circumstances, together with a comparison of the shape and course of some of the natural fissures transmitting blood-vessels from the surface, render it almost certain that at least the greater number of these cavities were perivascular spaces or canals which originally contained blood-vessels surrounded by their peculiar sheaths, and which subsequently became empty by the destruction and absorption of those vessels.

These remarkable vacuoles or canals were not confined to the cerebral convolutions. I found them scattered through the optic thalamus, particularly on the right side. In the pons Varolii they were particularly numerous and large. One group, some of which coalesced, was situated at the posterior part of the pons on the right side, close to the roots of the facial nerve, and encroaching on the gray

* A more detailed account of the case may be found in the *Glasgow Medical Journal*, New Series, No. 16, August, 1867.

tubercle, which a little higher up gives origin to the greater root of the trigeminus. Another group was found in the middle of the anterior pyramid of the left side, as it ascends through the pons. In the upper part of the medulla oblongata similar cavities were observed, but they were neither so large nor so numerous. On the left side, a *smooth*, cylindrical and longitudinal canal traversed the gray tubercle, as if it had been bored by a carpenter's tool. Neither the *lower* part of the medulla oblongata, nor the spinal cord presented any appreciable deviation from the normal state.

Although it was only in the *white* substance of the convolutions that these cavities were found, yet certain other morbid changes were observed in their gray substance. In some places the nerve-cells were unusually loaded with pigment-granules; in other places they had undergone, to a greater or less extent, the process of disintegration; while here and there were scattered, over areas of variable extent, irregular masses of fat-particles of different shapes and sizes.

Consciousness. By H. Charlton Bastian, M.A., M.D. Lond., F.R.S.

"All theories of the human mind profess to be interpretations of Consciousness: the conclusions of all of them are supposed to rest on that ultimate evidence, either immediately or remotely. What Consciousness directly reveals, together with what can be legitimately inferred from its revelations, compose by universal admission all that we know of the mind, or, indeed, of any other thing. When we know what any philosopher considers to be revealed in Consciousness, we have the key to the entire character of his metaphysical system."

John Stuart Mill.

"Aristotle, Descartes, Locke, and philosophers in general, have regarded Consciousness not as a particular faculty, but as the universal condition of intelligence. Reid, on the contrary, following probably Hutcheson, and followed by Stewart, Royer-Collard and others, has classed Consciousness as a co-ordinate faculty with the other intellectual powers; distinguished from them not as the species from the individual, but as the individual from the individual. And as the particular faculties have each their peculiar object so the peculiar object of Consciousness is the *operations of the other faculties themselves to the exclusion of the objects* about which these operations are conversant."

Sir William Hamilton.

The above quotations may suffice to impress the majority of readers with the conviction that those who wish to investigate the problems of Mental Science, should not engage in their task till they have sifted, to the best of their ability, all obtainable evidence as to the nature and mode of evolution of this mysterious something known as 'Consciousness.'