

an expansion of the optic nerve. The image is made by the arrangement and vibrations of the substance constituting the retina. The movement in the small particles of the retina involves force. This force is transmitted into the brain,—into the visual centre. This centre is situated at the back of the head—the occipito-angular region. The force on reaching its cell—destination—brings about a vibration in the substance of that cell—a re-arrangement in the molecules of its contents. This cell modification we may call impression, and the consciousness of this impression may be called sensation.”

“There, my dear, you have the definition of sensation in a concrete form, and no mistake,—reduced to the consciousness cells and vibrations. I suppose the author means to infer that the memory is the final series of nerve cells in the brain, on which the impression is made; that is, among which the vibrations take place; for he proceeds to say that reproduction means the re-excitation of the same series of cells, the first movement involving a molecular re-arrangement among the cells, and the second movement, or the effort of recalling, being neither more nor less than an excitement of the brain tissue thus re-arranged.”

“But who is it that has made observations of these molecular vibrations?” asked the undergraduate somewhat hurriedly.

“That is more than I can say,” I replied, “though the writer speaks of Dr. Ferrier as his authority for such a definition of the memory; but neither Ferrier nor Carpenter ventures to speak of these cell modifications and vibrations as something of which they are certain. Indeed, the latter says in unmistakable language that we have at present no certain knowledge of the mode in which the recording process of the memory is effected, and contents himself by defining memory as the reproduction of past states of consciousness. The definition of memory, sufficient to serve the teacher’s purposes, as has been said, has been given as the power of getting anything into the mind, so that it can be got out again when wanted; but the definition applies only to the process of memorizing, and not to the memory itself as something to be recognised objectively. Indeed, I never have had the inclination to enter on a prolonged search for a formal definition of memory, but for your sake will merely follow the inductive method, by giving you a collection of the varieties of memory that have come under my notice from the moment I was sent to school. With my own memory as a standard, I have been able to follow the laws of comparison in attaining to some certain knowledge in regard to the memory as an organism,—as a something to recognise.