

times. In December, 1888, she first came under my care, and when put upon treatment she managed to go along for five months without a convulsion. As to the convulsion itself she sometimes does not lose consciousness at all, more often experiences, just at the height of the seizure, a momentary unconsciousness. She is therefore able to describe her symptoms very intelligently. She feels first a curious sensation in the little finger of the right hand; this sensation or aura then spreads to the hand and is followed by a contraction of the fingers; then the hand, the forearm, the arm and neck, and right side of the face become involved; with this she loses her ability to speak. The attack soon passes off, but for a little time her speech is confused; she finds difficulty in getting hold of the right word. I should state that she has a pretty constant headache, which has lasted since May, 1887, and is always in her right temple. Also, in September, 1888, she noticed that she saw double, and thereabouts she noticed that she began to squint. The convergent strabismus of the right eye seems to be due to a paresis of the right abducens.

Such, gentlemen, is the clinical picture. Now let us see what it illustrates: It is not many years since the brain was regarded as a very mysterious, but single organ. To it were, indeed, attributed certain special intimate relations with thought, sensation, motion; but the first attempts to, in any way, analyze the functions of its complicated component parts, led off into the vagaries and futile fancies of phrenology. The absurdities of this system as has too often been the case with other and better systems entirely overshadowed the single germ of truth; so it happened that with the chaff we threw away the wheat. One solitary fact persisted. Broca had followed up the pathology of certain cases of loss of the power language, until he had established the fact that a small area just above the beginning of the fissure of Sylvius, the posterior part of the third or lower frontal convolution, just where the folds join in the beginning of that long ascending convolution which runs up in front of the fissure of Rolando, known as the ascending frontal, he had distinctly proven that there was a relationship between this area and an affection of speech now known as aphasia. He further recognized the fact that the lesion which gave rise to this affection

was to be found on the left hemisphere. It is not necessary to-day to enter into a discussion of the discoveries which have since been made in regard to aphasia, which in themselves constitute a marvellous demonstration of the constitution of the cerebral mechanism, which show curious relationship within the brain, between the eye, the ear, the memory, the voice and the muscles used in gesticulation. It is enough that Broca's *fact* proved two things: first, the existence of what we now call a centre, a portion of the brain-substance set apart to be in distinct relationship with certain fixed parts of the body, to have a distinct relation with the performance of certain functions. The other fact was, that while the two halves of the brain look alike, yet it was evident that they do not *necessarily* act together.

Now, if one portion of brain matter were thus set apart to control one function, the further step was natural; it might well be that other functions might be found to depend upon other portions or centres, and the course of experimental and pathological study has gone on on these lines, making progress with constantly increasing rapidity until to-day, the doctrine of cerebral localization has reached an accuracy, a certainty, which so short a time ago as the year 1881, would have been deemed incredible. Not only have we widened our knowledge as regards the centres for speech, but a whole area has been mapped out under the name of the motor area, from which proceed the motor impulses to the entire body. The centres for the special senses afford still a subject for further discussion and investigation. Considering the manifold relationships between the special senses themselves and between them and all the finer mechanisms of the body, it is not surprising that many puzzling elements remain; yet it is safe to say that the principle of special centres applies equally to special and general sensation as well as motion. Again, while the problem of the relation of the mysterious phenomena which we call thought, consciousness, will, with the material substance of the body remain as inscrutable as ever, yet the principle of cerebral localization has made its way some few steps further into the darkness of the problem than was formerly possible. We know at least that the anterior convolutions of the cerebrum stand in close relationship with the processes which we designate as mental