The corresponding lobes of either the frontal, occipital or parietal regions have been destroyed without affecting the conscious being, or those functions said to have their seat of power in these parts. It is evident then that these are not the *sole* habitations of mind or certain physical operations. The reciprocity between mind and body is strikingly seen in aphasia. There can be no aphasia without more or less impairment of the memory, judgment and imagination. Yet this functional and mental disorder can exist either with or without injury to the third frontal convolution. What basis then is there to suppose it so necessary to certain physical operations?

If it could be shown that sight, hearing, tasting, often were accomplished when the optic, auditory, and gustatory nerves and the region of their insertion, were destroyed, then would it be plain that these were not the only tracts of nerve influence for these centres of special sense to reside in, nor the avenues of each peculiar manifestation of sensation. In the same way, if we can have aphasia, paralysis of the legs, arms and face, with these so-called centres of nerve force unimpaired, or if impaired without these results, then is it beyond controversy that this doctrine of the cortical localization of specific functional energy is not proven. What may be in store in the future for these earnest and honest workers is only a matter of conjecture. As Richet pertinently says (page 115), "If the convolution which surrounds the crucial furrow is really the motor centre of the legs, then by removing both right and left convolutions the legs should become paralyzed; if not, then is it not a true motor centre. It would then be necessary to admit that there are several organs for one function, several motor centres for one limb, which is contrary to probability and to fact." He suggests as a way out of the difficulty that as the spinal cord conduction (according to Vulpian) is carried on equally by all parts of the grey matter, it is possible that the same indifference holds for the brain, though less in degree. In other words, *there are habitual roads, but no compulsory ones.* This view would be, if true, a death blow to the organic local theory as applied to the cortex. This theory would not meet Ferrier's definition of localization, which is said by him to be "a complex arrangement of individually differentiated centres, which in associated action regulate the various muscular adjustments necessary to maintain equilibrium of the body."

It will be seen that so far the greatest interest centres round the third left frontal convolution, on account of the stress laid on the fact that aphasia is so often found as a result of its injured or diseased condition. If it can be proved that this imperfection of speech is always conjoined with an impaired condition of this locality, and *never otherwise*, then is the battle won for localization of functional power in the cortical substance, for it would be fair to infer that other centres for other functions would be found in similar parts of the same field of investigation. Unfortunately for this doctrine, the exceptions to these results are too many to be ignored, and these show that this spot is not the centre of speech, nor its injury the sole cause of aphasia. It has been found in numbers of examples that aphasia is found with this convolution intact. Not only this, but it is known that speech, in its different forms of language, such as writing, reading, singing, drawing, and imitation—in fact, aphasia in all its forms—follows lesion in the Island of Reil. (*London Lancet*, Amer. Ed., July 1880, p. 34.)

Aphasia is known to exist as the result of disease in the right hemisphere, and that not in the corresponding third frontal of that hemisphere. It cannot be supposed this reputed motive brain tissue which excites the functions of speech may be destroyed, and yet the peculiar energy which animates it can remain unabated after its obliteration has taken place, unless it is claimed that the corresponding convolution on the right, in a vicarious way, does the work of its fellow. If such were the case, then the third left frontal convolution could claim no pre-eminence as the sole seat of the faculty of articulate language. To get over this difficulty, this school of thinkers introduces what is called *the theory of supplementation.* They say some other part of the cortical substance comes to the rescue when