

THURSDAY, AUGUST 6, 1874

HITZIG v. FERRIER.

IN a German contemporary, *Das Ausland*, for July 6, the editor has a note on the comparative value of the researches of Drs. Hitzig and Ferrier, in which he animadverts severely on English journals, specially mentioning NATURE, because they have not taken up the subject, and shown that all the credit of the discovery of the localisation of the cerebral functions is due to Fritsch and Hitzig, and that Ferrier has only followed up their line of investigation without giving them due credit for their work.

It is evident that the editor of *Das Ausland* is not a constant reader of this journal, for if he were he would not have stated that we have taken no notice of the work of Fritsch and Hitzig. We believe that we were the first, or, if not the very first, among the first in this country to draw attention to the researches of the able German physiologists, when we gave an abstract (NATURE, vol. viii. p. 467) of an excellent report by Dr. Neftel in Dr. Brown-Séguard's Archives of Scientific and Practical Medicine (New York), upon some of the recent researches in Neuropathology, including an account of the investigations of Fritsch and Hitzig, Gudden, Nothnagel, and others. Our object in publishing that abstract was to enable our readers to form their own opinion on the subject.

The facts, as far as they affect the question at issue, are these:—It had until quite recently been thought that the cortical substance of the cerebral hemispheres was devoid of irritability, being the seat of mental phenomena. Hitzig in 1870* found that contraction of the eye-muscles in man can be produced by galvanic excitation of the hemispheres. This discovery led Hitzig, and with him Fritsch, to commence a series of investigations on the lower animals, with very feeble galvanic currents; and as the results of their experiments they were able to state that the excitation of distinct and limited portions of the anterior convex portion of the brain produces movements of certain groups of muscles on the opposite side of the body, the following new facts being established.†

1. The indication of the points for the irritation of almost all the muscles.
2. The proof that after the irritation with the induced current, secondary movements appear.
3. The proof that epileptiform fits may follow the application of this current.
4. The proof that the loss of blood destroys the excitability of the brain.

In the "West Riding Lunatic Asylum Medical Reports for 1873" (vol. iii.), Dr. Ferrier published a paper containing the results of experiments on various animals, in which the cerebral surface was excited by the interrupted current. This physiologist also localises the seat for the stimulation of different sets of muscles, in many cases going more into detail than do Fritsch and Hitzig; the method of stimulation which he adopts—the interrupted current—being one which the German authors had rejected as unsuitable.

What Dr. Hitzig complains of is, that in the original paper above referred to Dr. Ferrier only mentions his

* Du Bois-Reymond's *Archiv.*

† See *London Medical Record*, vol. ii., p. 448.

name and that of Fritsch in connection with the first of the four above-stated propositions, thereby retaining for himself the whole credit for the other three. In a review of Hitzig's recent work, published in the *London Medical Record*, Dr. Ferrier—writing in a spirit which we hardly think suitable to the occasion, and regretting that he has not indicated some *minor* coincidences between his observations and those of Fritsch and Hitzig, "on account of the construction which Hitzig puts upon them"—acknowledges, we are glad to see, that there are several points which the two German physiologists recorded, and which he had previously failed to credit them with. Nevertheless, he still seems to fail to realise that his true relationship to the original discoverers of the method he employs is that of disciple to master, and not that of an equal, as far as the subject itself is concerned.

To show that due credit has not been given in the right direction, it may be mentioned that in this country the localisation of the cerebral functions has thus become associated with the name of Dr. Ferrier, so much so that in his recent work on "Mental Physiology," Dr. Carpenter, in an appendix, has a chapter on the subject, in which the names of Fritsch and of Hitzig are not even mentioned, the title being "Dr. Ferrier on the Brain." Now, Dr. Carpenter, in this chapter, gives a kind of abstract of Dr. Ferrier's paper above referred to, and it is impossible that an author of so much experience could have omitted even the mention of the true workers-out of the method and facts he recounts, unless these facts and methods had been brought before his notice in a manner which does but very insufficient justice to their originators.

The same cause has probably led most Englishmen to associate the name of Dr. Ferrier so intimately with the doctrine. The question is, Has this author given due credit to Hitzig and to Fritsch, whose careful series of experiments—called into existence by the logical working-out of an opportunity which many less competent observers would have let pass unheeded—gives them full reason to expect all the honour due to the discoverers of the localisation of the cerebral functions?

Dr. Ferrier may remark that the work of Fritsch and Hitzig was public property for three years before he published his investigations, and that in his paper he assumes that the reader was acquainted with the foreign literature on the subject. Other physiologists have acted on that assumption, and have received credit for a depth of thought and power of observation which they have not deserved; and this experience should make all authors more than ordinarily careful, when continuing the investigations of other than their own countrymen, to state clearly and fully all that has been previously done by foreigners in their particular line.

Dr. Hitzig seems much aggrieved at the little credit given him by Englishmen in comparison with that which has been bestowed on Dr. Ferrier; but he may rest assured that all working physiologists fully appreciate the value of his methods and his facts, and that their conviction that his position is impregnable is the only reason why they have not thought it necessary publicly to state in print what time will prove to all, namely, that he was the undoubted discoverer of the important doctrine with which his name is so intimately associated.