## Selected Articles.

DISEASES OF THE NERVOUS SYSTEM.

A Lecture delivered at Bellevue Hospital Medical College,

## BY C. E. BROWN-SEQUARD, M.D.

it is extremely difficult, but as you will see, from of the brain. what I shall say to-day, there are features which i the views which are generally accepted.

lead to diagnosis of the seat of the disease that has from which the nerve-fibres arise. brain. These parts are the muscles of the trunk, brain. the muscles of the neck, those muscles which go rell as most medical men, considers the corpus have paralysis of the nerve. restiformis as a motor-centre. The reality is, as I

I now pass from this to what I have to say regarding the significance of certain symptoms in the diagnosis of the seat of the brain disease which causes paralysis. There is one fact, very important indeed for you to understand fully before I enter into details upon this point. As you well know, there are nerves arising from the base of the brain, nerves which serve as centres, which serve for Gentlemen :--- At the last lecture I referred to a general tactile sensibility, and also as nerves of number of cases, with the purpose of showing that motion. Then you must make a distinction beany lesion in the side of the brain can produce the tween cases of paralysis of those nerves dependent greatest variety of forms of paralysis--the greatest upon disease which strikes at the very place from variety as regards the extent, the degree, and the which those nerves arise, in which case the trunks persistence of paralysis. This, of course, has led a of the nerve itself or its immediate roots within the number of you to think it to be extremely difficult base of the brain are implicated, and those cases to make a diagnosis of the locality in the brain of in which these nerves are paralyzed when the lesion the disease which produces paralysis. No doubt, is beyond the place of their entrance into the base

Suppose, for instance, a lesion occurs in the mecan lead to diagnosis of locality of lesion, even | dulla oblongata in the immediate region where the when what we observe is entirely in opposition to root of a motor-nerve has its origin; if the disease strikes there, it of course destroys some of the But before I speak to you of those facts which fibres of the nerve, and it destroys the cells also But let the produced the paralysis—the symptoms of the dis-i disease be located in another part of the brain—at ease—I have a few more words to say upon a point a point beyond—where there are no nerve-fibres which escaped notice in the previous lectures. It arising which form a connection with the nerve is this; the theory published by Dr. Broadbent which goes down from the medulla oblongata, then has been put forth with the view of explaining you will have a result completely different from what certain difficulties which we find as regards par-lyou have when the cell itself of the motor-root is alysis. As I told you yesterday, most cases of struck by the disease. In those cases of paralysis brain disease producing hemiplegia consist almost of nerves in the base of the brain dependent upon exclusively of paralysis limited to the arm, the leg, destruction of the cell which gives rise to the nerve-and to some of the muscles of the face. There are libre, or striking the root itself before it reaches many parts of the body which escape paralysis in these cells, you have just the same result produced the immense majority of cases of disease of the as if the nerve-trunk had been affected outside the

Something quite different takes place when the from the trunk to the limbs—the arms or the legs. disease is beyond the origin of these nerve-fibres. These muscles escape paralysis more or less, rather In what I have already said in a previous lecture more than less, in the immense majority of cases, with reference to paralysis of the muscles of the Dr. Broadbent has tried to explain this fact in face, muscles of the eye, paralysis in the tongue, in admitting that there are certain parts of our body the neck, and elsewhere. I had in view only those which depend on a centre located in the medulla cases in which the paralysis depended upon disease oblongata or at the lower part of the pons varolit, inside of that zone or layer of nerve-cells which and which has the power to act upon both sides of gave rise to the motor nerve fibres going to the the body. So, admitting that one side of the brain tongue, to the eye, etc. There is no question that, <sup>15</sup> destroyed totally, including that nerve centre- when you find disease in the base of the brain centre which is the corpus restiformis upon the striking the nerve or its roots before they reach the side, the corpus restiformis upon the other cells of origin, there will be paralysis upon the side is alone sufficient to move the two sides of the same side of the body in which the disease is situated. body, and thereby the muscles which have escaped it is quite evident that it must be so. You have paralysis. The view is certainly true in a great a cause acting the same as if you had divided the measure, but it is faulty in this: Dr. Broadbent, as nerve itself outside of the brain, . nd of course you

In what I have now to say, you will find that hope to be able to demonstrate, that a small part what I have just mentioned is of the greatest imatone side of the brain is sufficient for both sides portance; I will illustrate at once the meaning of at the body, not only for the muscles which escape this. You will see that in case of disease of the paralysis but for the muscles of the limbs as well, pons varolii, for instance, a little above the place of