

change pertains to the diseases. That the terminal organ is diseased, and its structure permanently changed, is not probable, because of the transient character of the disorder of its function. To-day, this is deranged, to-morrow, it is normal in every particular, though the disease may still be present, as shown in other parts. Experience, too, demonstrates that the only function of these terminal organs is to receive certain forms of impressions, and this function is never deranged without an accompanying change in structure which is visible either macroscopically or microscopically. To this last assertion there may be exceptions taken by some, but I believe a careful reflection will establish its truth. In this particular instance it is undoubtedly true that no evidence, either of pathology or disordered function, indicates any form of molecular change even, in the terminal organ of the part where the disease shows itself. This leaves only the central cell which may be the seat of the pathology of hysteria, and a careful review of the entire symptomatology will, we feel assured, justify this analysis by exclusion. There is no visible pathological change here, more than in the other portions considered. We must therefore, look to other proofs on the assumption that pathological changes may exist which are not discoverable by any known method of investigation, and show themselves only in functional derangement.

First, then, the function of this central cell is both to receive impressions and to transform these into other forms of activity. Its function is first to receive, and second, to react under the reception. The symptoms of hysteria relate to the second part of this functional activity. The entire group of symptoms in hysteria may be reasonably referred to either an increase or a diminution in the tendency of this central cell to react under an impression of given intensity.

Second, this central cell, besides these functions, also should possess the power to control within certain limits this reaction, both as to the degree of its intensity and the direction which it will take. This is the power of inhibition, and it is this function, *par excellence*, which is disordered in hysteria. Reactions are immediate and uncontrolled. Reactions to impressions may occur, giving rise to simulation of disease in some organ or tissue of the body when there is no local pathological change of any character. Again, a local change of given kind and extent may be productive of a reaction in these central cells, altogether abnormal in character or out of proportion to the local cause. Thus inflammation of a joint may result in hysterical contracture and impaired motion. Epilepsy may be accompanied by hysterical manifestations in almost every imaginable degree. There is scarcely a pathological process in any tissue which may not be accompanied by hysterical mani-

festations of greater or less extent. This is an important fact, and one which should be kept constantly in mind. Do not permit yourselves to see view hysterical manifestations that their presence will cause you to drop all further investigation of the case. A careful differentiation should be made in each case between those symptoms which are the result of local changes in the tissues, and those which depend on the pathological condition of the central nervous cell. Bear in mind that they may co-exist, and the presence of one does not therefore exclude the other. I have known the gravest mistakes to be made, and most serious results to follow a failure to keep this fact in mind.

It being determined that the pathology of hysteria consists essentially in a molecular modification in the central cellular elements of the nervous system, how much further differentiation can be made. The cellular elements of the central nervous system are found in several distinct portions of that system. They exist in the gray matter of the spinal cord, in the nuclei of the cranial nerves, in the collections of gray matter at the base of the brain, in the cortex of the cerebellum and in that of the cerebrum.

To determine this point it is necessary to consider again the symptomatology. In all the manifestations of hysteria of whatever form or habitat, there is a distinct psychic element, which of course discloses functional disorder of the cerebral cortex. This is the one universal and essential element in hysteria. It is always present, and is that which gives the disease its peculiarities and defines its individuality. The cellular elements of the cerebral cortex then are always involved and display disordered functions. It is questionable whether the cells in the lower collections of gray matter are modified in any particular. The normal state of the reflexes, in most cases, would contra-indicate any change in the cells of the spinal cord. Those of the collections of gray matter at the base of the brain may be changed in some of their functional capacities, but we have no certain method of gauging this change. Their physiological functions have not been well determined, and it is not possible, therefore, to determine the part which they play in pathology.

Reasoning from the character of the symptoms, and by methods of exclusion, we determine that the pathology of hysteria consists in a disordered functional activity of the cellular elements of the cerebral cortex, dependent upon molecular changes in their structure, which have thus far eluded all forms of investigation, but which we assume from analogy to exist; that this functional change is shown in a modification or perversion of their normal reaction under stimulus from without themselves, and in a loss of their normal capacity to control and direct within certain limits, the direction and intensity of this reaction.