

renewed interest. This has been owing in a great measure to the publication of Page's work "On the Injuries of the Spine and Spinal Cord." Mr. Page has been for a number of years surgeon to one of the greatest railway corporations in England, and, therefore, had a very extended experience of all possible railway injuries, and particularly of cases of so-called "Railway Spine." He contends that cases of what are commonly called "concussion of the spine," do not exist, except in the imagination of the surgeon making the diagnosis. By concussion he means the cord receiving an injury of such a nature as to give rise to pronounced symptoms, without, at the same time, the vertebræ, ligaments or membranes receiving any hurt.

It is well-known that Mr. Erichsen has been a strenuous advocate of the theory that the great majority of cases of railway injuries having for their symptoms, spinal symptoms, are due to concussion of the spinal cord. The first one hundred pages of Mr. Page's book are taken up with combating this view of Erichsen, and it appears to me that Mr. Page's attempt has been successful. He, at least, conclusively shows that the vast majority of cases of concussion of the spine are nothing more nor less than cases where the lumbar muscles or ligaments of the spine have been sprained or ruptured. Erichsen contends that many cases of "concussion of the spine" received in railway accidents never recover, while Page, on the other hand, maintains that these so-called cases of spinal concussion always do recover. While representing the reaction, Mr. Page's recent work certainly favors an undue belief in the certainty of recovery in cases of this sort.

Erb presents the matter more fairly than either of these writers. Accidents which occur in railway collisions, as other accidents, may lead to a long train of nervous symptoms, and when death has resulted, a post mortem examination may show little apparent cause for the fatal result. In the greater number of these cases the pathology is a riddle, which, for its satisfactory solution, will need a great deal of experiment and careful and extensive post mortem investigation. The great trouble in coming to an opinion as to the nature and cause of a train of nervous symptoms following a railway injury is not whether we have to do with a functional or organic change, but whether we have to do with an actual or feigned train of

symptoms. Usually the patient's symptoms are of such a nature that the physician can come to a conclusion without much trouble, but where he has to do with an intelligent and unscrupulous man who expects a large sum from a railway company, the case is one of extreme difficulty. In many of these cases it is quite impossible to come to a certain diagnosis.

In the words of a recent writer, the "needed clinical work, it seems to us, in the study of 'railway spine' is the determination of clearly defined types of the disease, and the investigations of the variations from this type, and the certain relation of objective symptoms to the disease." That serious and even fatal effects may arise from changes in the cord where it has not received any direct injury has been abundantly proved. In the current number of one of our periodicals there is a very instructive case reported, by Dr. Edmunds, of a soldier who was struck in the back with a bullet. He fell immediately, and had to be carried out of action. The bullet entered the back two or three inches from the spine, and the surgeon who first attended him considered that the spine was severely injured, because the patient had lost complete control over both lower extremities. Patient had paralysis of the bladder and rectum also. There was cystitis and a bedsore over the sacrum before death, which occurred five months after the injury. At the autopsy there was no fracture or indication of fracture, or dislocation of the vertebræ to be found. The cord was seen to be much atrophied and softened about the level of the wound. On hardening the cord in Müller's fluid, it was seen that there was universal myelitis and softening for about two inches opposite the wound, this gradually passing below into sclerosis of the lateral and anterior pyramidal tracts, and above into sclerosis of the posterior columns. There was no indication of hemorrhage, either external or into the substance of the cord. Its surface was uninjured. This was undoubtedly a case of pure "spinal concussion." The immediate paraplegia following the injury could not have been due to any other cause. The case is then one of very great importance, as it proves most conclusively that we can have from a severe shock sufficient changes brought about in the spinal cord to cause death, and that these changes were in the first place nothing more or less than "concussion of the spine."