

move the stone. In cases of cystitis with enlarged prostate where stone has formed, removal of the stone is necessary, but it is also necessary to prevent further formation, by getting the bladder into better condition." The bladder, says Mr. Harrison, is like a chronic abscess with a stone in it, and it is quite as necessary to drain the one as the other.' These cases are unfit either for supra-pubic lithotomy or lithotrity; but the lateral operation provides an excellent means not only for the removal of the stone but of after-drainage of the bladder. Ruptured bladders have recently been *successfully treated by abdominal section*, and suture of the bladder rent. An early diagnosis is of course important in these cases.

I fear I have already exceeded my allotted time, and although many other subjects of intense interest to the surgeon might be touched upon, yet I feel constrained, for the remainder of my address, to confine myself to giving a short account of the remarkable advance which has been made during the past two or three years in the treatment of various *diseases and injuries of the brain and spinal cord* by surgical operation. Brilliant results have been obtained in this department of surgery, results which, a few years ago, would have been looked upon as Utopian. The operation of trephining the skull is a very old one, and was frequently and often unnecessarily performed by surgeons in the early part of this century. I have heard, that it was quite the fashion for Dublin surgeons to have their pockets full of buttons of bone which had been removed with the trephine from the skulls of pugnacious Irishmen. However, the surgeons at that time only trephined for injury, and their explorations did not extend further than the dura mater; it was considered injudicious and dangerous to interfere with the brain itself, not, as in earlier times, for superstitious motives, but owing to such interference being followed by fatal inflammation. It is only with the introduction of antiseptic surgery, and a more accurate knowledge of the localization of brain functions that the brain itself has been interfered with. Our knowledge of the functions of the brain has been greatly extended by the researches of such men as Broca, Hughlings Jackson, Fritsch and Hitzig, Goltz, David Ferrier, Yeo and others. The observations of these investigators chiefly go to prove that many areas in the brain are connected with sepa-

rate and distinct functions. It was found that if these areas in the surface of the convolutions were stimulated electrically, distinct movements were excited in certain groups of muscles on the opposite side of the body. These facts were not discovered all at once, but were the result of prolonged clinical observation and careful experiments on the brains of animals. Many cases of severe injury to the brain have been saved in the past by early trephining. Abscesses of the brain following injury have been frequently opened successfully. Again, many cases of epilepsy, due to injury, have been cured by trephining over the spot injured; but it is only quite recently, in fact only since the truth of the theory of Broca's localization has been established on a firm basis, that operations have been undertaken where there was no external indication of injury or disease. The lesions have not only been successfully diagnosed, but the brain and its membranes have been incised without resulting in fatal inflammation. It has been clearly shown that inflammatory conditions following operations are due to sepsis. If the wound be kept aseptic the case does well. Dr. MacEwen, of Glasgow, an old pupil and house-surgeon of Lister's, noticed that cases of severe injury to the skull with extensive loss of cerebral substance, were quite amenable to treatment, and exhibited no tendency to inflammatory action as long as the tissues were kept aseptic; hence, he said, if such injuries can be recovered from, how much more likely is recovery from a carefully planned operation. His first case was in 1876 for abscess, which he diagnosed to be in the vicinity of Broca's convolution; operation having been refused during life, he was permitted to trephine over Broca's convolution after death; the abscess was found as diagnosed and easily evacuated. In 1879 Dr. MacEwen successfully evacuated from beneath the dura mater of a boy, who had previously received an injury of the head, some fluid which had collected there and had given rise to convulsive seizure of arm and leg. In the same year a tumour of the brain was diagnosed and successfully removed from the frontal lobe of a woman, who lived for eight years after and then died of Bright's disease of the kidneys. Up to 1884 MacEwen had operated on seven brain cases, with one death, a case of abscess of the temporo-sphenoidal lobe. In December, 1884, the first case of tumour of the