

Lieut. Lilycrantz, wounded at Fort Pulaski. The ball perforated the os frontis, over the right superciliary ridge. When first seen after the injury he was vomiting freely, and about a fluid ounce of brain matter had exuded from the wound. A probe, five inches long, glided easily, by its own weight, its full length directly backwards through the wound without coming in contact with the ball. For ten days the patient showed a tendency to sleep, but was easily aroused and would converse freely, constantly wandering, however, from the topic of conversation. He could, at this time, neither taste nor smell, and his hearing and sight were much impaired. He recovered his mental faculties to such an extent as to be employed in Government service at Washington, and died five years afterwards. During this time he articulated distinctly; had no paralysis, but had occasionally slight attacks of epilepsy, but they were becoming slighter as time wore on.

I have culled these cases out of 559 persons who received penetrating or perforating fractures of the skull. These 559 were selected out of 4,350 cases of gunshot wounds of the cranium and its contents. Of that large number many were afflicted with functional and mental disturbance, but in no two cases of similarly injured were there like results.

Dr. Van Peyma gives a record of a singular case in the *Buffalo Medical and Surgical Journal*, December, 1873:—

A man, aged 50, was found comatose and brought to the Buffalo General Hospital. He subsequently was sufficiently roused to give his name and age. He died six days after admission. On *post mortem* examination, the meninges on the right side were found considerably congested. On removing the brain a collection of pus was found at its base, extending from the medulla oblongata forwards. The lateral ventricles were also found filled with a purulent collection. At this moment, as the incisions were being extended, something was heard to fall on the tray on which the brain was lying. To our utter amazement this was found to be a bullet. The ball, which was of small size and considerably flattened, had been liberated by the knife. The con-

viction was forced upon us (says the surgeon) that the external opening, through which the ball had passed, had been overlooked during the life of the patient, and that this was the real cause of death; but our astonishment was increased when, after a careful examination of the surface, no opening could be found. As a last resort, the cranium was examined from the interior; and on the anterior surface, above and a little to the right of the left orbit, was found a fracture of the frontal bone, the internal table of which was extensively fissured. With this as a guide, we again made search for the external aperture, and again failed in finding an opening, but finding a discolouration of the skin over the seat of the fracture, of a lead colour, circular in shape, and the size of a ball. There was not the least sign of a wound or the slightest scar. The wound, which must have existed, had healed perfectly, and left nothing but this leaden discolouration to show its former presence. The course of the ball through the brain could still be traced by a probe to the place where it had lodged, near the anterior surface of the medulla. The opening in the bone was filled in with a gelatinous material through which tenaculum passed readily. There was no previous history of the case, but it was evident that the wound had been inflicted a considerable time before death; and seeing the patient had not found refuge in a poor-house, hospital, or asylum, the inference is fair that the intellect had not been much impaired, if any, up to the fatal attack. I am the more ready to think so, from the immunity enjoyed by patients similarly afflicted. There could not have been serious functional results as he had been able to look after himself.

A somewhat analagous case is recorded by Dr. Prewitt, of the City Hospital, St. Louis (*St. Louis Medical and Surgical Journal*):— A man, aged 32, shot himself with a pistol. The ball entered the forehead about an inch and a half above the supra-orbital ridge. He recovered in a little over a month, and *without marked impairment of intellect*. He died eleven months afterwards from erysipelas. No functional impairment is mentioned.

Asst.-Surgeon P. F. Harvey, U.S.A., reports