

terially disturbed, *mind clear*, and manifested no signs of compression of the brain, or inflammation of its membranes. When the swelling of the scalp subsided, a prominence of brain substance was found—one inch in height, and three inches in length—in which the pulsation of the arteries could be distinctly observed. Spiculae of bone came away from time to time, and the tumour subsided within the cranium. On December 20th, 1870, or over eight years after the injury, he was examined by two medical men. Previous to this time he had worked in an iron foundry. His memory remained quite good. He had no paralysis, and it is reported by Drs. Keen and Thomson that it is remarkable to observe the almost entire restoration of his mental faculties, especially in view of the probable deep lesion of the brain, both by the primary injury and the subsequent fungus cerebri.

It will be seen that in this case there was no functional disorder, except that, for a short time at first, "the brain functions seemed clouded." This might be expected for a time.

Private Sheridan was shot through the left temporal region. The missile lodged in the brain and was never extracted. At the close of the war he was discharged—recovered, and received no pension. No functional disturbance.

Corporal Farnum, wounded by a round ball entering the cranium and brain matter. He recovered, and was put on the Veteran Reserve Corps. He was not pensioned. He was none the worse for the wound.

Private Dillon was wounded by a bullet which entered the cranium very near the superior angle of the occipital bone, and had passed anteriorly into the substance of the brain. He lay on the field of battle two days without any attention. After being a year invalided he returned to active service, perfectly well physically, but with the intellect slightly impaired. Afterwards he was mustered out of the service perfectly well, and was not pensioned. The ball was not extracted. After the first shock there was no functional disturbance.

Private Bemis, wounded by a ball entering a little outside the left frontal pro-

tuberance, and passing backwards and outwards. It removed a piece of the squamous portion of the temporal bone, with brain substance and membranes. When the patient entered the hospital, brain matter was oozing from the wound. At first, respiration was slow; pulse 40; the right side was paralyzed, and there was total insensibility. Three days after the injury the bullet was extracted from the substance of the left hemisphere. It was a conoidal ball and badly shattered. He then rapidly recovered, and the report says that in four months and a half afterwards "the mental and the sensory faculties were unimpaired." On October 30th, 1870, he wrote: "I am still in the land of the living. My health is good, considering what I passed through. My head aches some of the time. I am married and have one child. My memory is affected, and I cannot hear as well as I could before I was wounded." These were the only results of this extensive laceration of brain matter. The slight functional disturbance did not correspond with the doctrine of cortical functional centres.

Sergeant Rotherham, wounded at Gettysburg by a musket ball, which penetrated the skull near the right frontal eminence, passed directly inwards and lodged somewhere on the membranes or in the brain substance. The opening through the bone was similar to that made by a trephine, and the track of the ball could be followed on the *dura mater* with a probe for a considerable distance, as that membrane was detached from its natural connection with the skull. The ball was not extracted. There was no perceptible loss of power, motion, or sensation on either side of the body. There was no arterial excitement. His recovery was rapid, and five weeks after the injury he was furloughed for fifteen days, at the expiration of which time he returned to duty, having suffered no inconvenience from the injury. After this several bones exfoliated, but his mind was not impaired to any perceptible degree. For some time after the wound was received, he was assigned light duty in the Veteran Reserve Corps Hospital.

Lieut. Brown, at the battle of Wilson Creek, received a penetrating gunshot wound of the