almost in direct contact, I found had separated only a little more than half an inch. Two cases treated by this apparatus, at St. Vincent's Hopital, resulted in bony union.

PUNCTURED WOUNDS OF THE SKULL.

In a recent discussion on this subject, before the Academy of Medicine of Cincinnati, Ohio, reported in *The Cincinnati Lancet and Clinic*, Jan. 5th, 1884, Dr. P. S. Conner (Class of 1861), in introducing the subject for discussion, said he was well aware that it might be looked upon by many as rather trite, and yet the gravity of these sometimes apparently slight injuries renders it of great importance. The treatment of simple punctured wounds of the cranium is still a matter of discussion, from the fact that it is frequently difficult to decide whether the injury received is one of the skull alone, or whether the structures underneath, the brain and its coverings, are also involved. If the injury be of a definite character, the question arises whether we are justified in interfering actively in order to prevent the development of dangerous complications, or whether it is more prudent to wait until further symptoms arise. As regards active interference, we have the advocates of the extreme use of the trephine from Ambrose Parè to Pott, and the expounders of the doctrine, as Stromeyer, that the trephine ought not to be used in any case. Stromeyer claims that, although the injury inflicted may be of the utmost gravity, the trephining of the skull will but increase the dangerous symptoms.

The speaker alluded not to the general fractures of the skull, but to the punctured form. No one would fail to recognize an injury where the skull is driven in, but in a punctured wound the gravity is often overlooked; and yet, without any apparently severe injury externally, such an injury may perhaps prove most dangerous.

The skull may be punctured by the blade of a knife, a bullet, a piece of glass, a sharp instrument, as a pick, and various other substances. The depth of penetration may be out of all proportion to the the extent laterally, and the symptoms may be masked for hours or days. The injury is probably greater to the internal than the external table of the skull, or a diploïc injury may be followed by inflammation of the veins or pyemia, but usually the internal table is broken off and the meninges or the encephalic vessels are pierced. Hemorrhage and inflammation may thus result, and sometimes the brain substance itself may be injured, the penetration extending perhaps even to the opening of the lateral ventricles. With all these serious consequences a diagnosis is frequently not made.

The speaker remembered one instance where death resulted in forty-eight hours, and the wound in the skull had been overlooked altogether. Knowing the liability of suppuration of wounds of the external and internal tables of the skull, we can understand the necessity for drainage so that a steady outflow is necessary for the safety of the individual. Death is often to be attributed to a punctured fracture of the skull, and it is therefore desirable to call attention to the danger of injuries about the head, even if they are scalp wounds, to decide whether the trephine should be used or not.

The speaker could not see where the danger lies *per se* in the use of the trephine; it is not followed by a great mortality, and the latest examinations made by Walshman, of London, shows that there is but little danger. The trephine simply converts a wound with a ragged edge into a smooth one, and the removal of a button of bone frequently prevents inflammation of the meninges, or a localized inflammation of the cerebral mass, or an abscess. A wound of the skull may cause death without a warning, setting in either with convulsions or coma. In order to show how slight an injury may take the life of an individual, the speaker presented a specimen obtained twelve years ago, where a man was cut in a fight on the head, the injury being, however, scarcely perceptible, and yet death occurred in twenty-four hours. At the po t-mortem examination a small scalp wound was found, underneath which there was an extravasation of blood; on reflecting the scalp it was discovered that the skull had been pierced with a small pocket knife, severing a branch of the middle meningeal artery, the cut extending to the depth of half an inch.

This man might have been struck a hundred times about the head in other situations, and yet he might have escaped much injury. The injury was not recognized during life; if it had been recognized the trephine might have saved this man's life, as the hemorrhage could readily have been stopped with a little white wax. Another man was struck in the head with an ice-pick. Paralysis of the right upper extremity, but not of the face, resulted, and two weeks afterward, when Dr. Conner first saw him, a hardness was to be felt at the seat of the injury, as if the pick had been broken off. The doctor at once removed a button of bone with the trephine and came upon the abscess cavity, which he evacuated, but the man died in two or three days. The cavity was not very large; it was situated at the superior portion of the frontal convolution. The symptoms following the injury in this situation ought not to have been produced according to our present understanding of localization of the brain. If the crown of the trephine had been applied in this case immediately after the injury it would have permitted an outflow of fluids, and prevented these serious symptoms.

The next specimen, obtained from Dr. E. W.