

A point of special interest was the totally different character of the cranial fracture in this case from the appearances met with in fractures produced by direct violence from without, such as results from blows or a fall on the head, etc. The difference consists in the marked tendency to separation of the sutures in the case of the gunshot injury of the cranial vault from within, and the fact that the lines of fracture do not tend to run across the base of the skull. This distinction can be readily explained on mechanical grounds when the totally different relation of an arched cavity like the cranium to external and internal shocks is borne in mind. An expansive force acting from within would naturally tend to separate the sutures, while a crushing force acting from without would have no such tendency. An external force impinging on the roof of the cranial arch makes itself felt earliest and most severely at the base, while an internal force directed upward expends itself entirely upon the roof of the skull.

That this difference in the distribution of the lesions has not previously been noted is perhaps due to the fact that the commonest form in which gunshot or pistolshot wounds at short range present themselves for examination is in the case of suicides, and when the shot is fired through one of the natural orifices, the mouth is that commonly chosen, in which case the base of the sphenoid bone lies directly in the line of fire, and is, naturally, shattered. In cases where the entire skull is not shattered to fragments, the scalp is perforated by the bullet in its exit.

In the present instance it was my fortune to meet with a case where a most extensive fracture of the skull accompanying a gunshot wound of the orbit, made at short range, was not associated with any wound of exit or injury to the scalp.

Thinking that injuries of this nature arising from the careless handling of firearms must be fairly frequent, I carefully searched all the available sources of information in the shape of text-books on medical jurisprudence and medico-legal literature, particularly the files of the *Viertel-jahresschrift für gerichtliche Medicin*, but was unable to find any case where a gunshot wound had fractured the skull from within without producing a wound of