

the brain and dura beneath. After a long experience of saws, circular or straight, and trephines driven by electromotors, I find that the foregoing principle can be most quickly and readily fulfilled by first removing a trephine disc, then marking with a large saw the area to be removed, and finally cutting away the bone with large bone forceps, all traction being directed outwards. The ill effects of vertical pressure or force are particularly seen when the opening of the skull has been done osteoplastically with the use of the mallet and chisel, and as in very many cases it is not advisable to preserve the bony wall of the skull the chisel need be but rarely used.

ALTERATION OF INTRACRANIAL TENSION.

(a) *Influence of Region of Skull Opened.*

Having thus briefly dealt with the methods of opening the skull, I pass to the next practical question—the influence of the region opened. This introduces a very important point which was first raised by Duret some thirty years ago, and has attracted the attention of most surgeons who have more especially operated on the cerebellum. It is obvious that inasmuch as the nerve centres of organic representation are situated in the posterior fossa of the skull, opening this region might theoretically be expected to cause more shock symptoms than the opening of other parts. No statistics can give a dogmatic explanation of this or any other clinical matter, and in fact every case forming the material for our present statistical analysis in which death occurred from shock after the first stage (six of the total number of cases) was complicated by the pressure of the lesion being only partly diminished, while in two instances there was, in addition, persistent hæmorrhagic oozing; but on taking all the cases together they give the following result, which is sufficiently demonstrative:

	Proportionate Ratio.		
"Motor area"	1	death in 27	operations
Parietal and post-parietal regions	1	" 19	"
Frontal region	1	" 13	"
Temporal region	1	" 12	"
Cerebellar region	1	" 10	"

If, therefore, a line be drawn from the frontal eminences to the occipital protuberance, it is obvious that more shock results from operations below that line than from above, and also as we proceed from the frontal to the cerebellar pole of the encephalon.

Duret's conclusion was that pressure applied to the frontal regions specially produced lethal effect by direct transmission to the medulla.