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Observations on the Effects which take place from the Destruction of the Membrana Tympani of the Ear. By Mr Astley Cooper; In a Letter to M. Everard Home, Esq; F. R. S., by whom some Remarks are added. — See *Philosophical Transactions of the Royal Society of London, for the year 1800.* 4to. London. 1800.

WHEN Mr Home was engaged in investigating the structure and uses of the membrana tympani, he mentioned a wish to ascertain the effect which a rupture of that membrane would have upon hearing. That wish has produced the communication of the following cases, which have led to a most important improvement in surgery.

Mr P. a medical student of St Thomas's Hospital, of the age of twenty years, applied to Mr Cooper, in the winter of 1797, request-
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ing his opinion of the nature of a complaint in his ear, which rendered him slightly deaf. He had been subject from his infancy to pains in the head, and was attacked at the age of ten years with an inflammation and suppuration in the left ear, which continued discharging matter for several weeks. In the space of about twelve months from the first attacks, symptoms of a similar kind took place in the right ear, from which matter also issued for a considerable time. The discharge in each instance was thin, and extremely offensive to the smell, and in the matter, bones, or pieces of bones, were observable. The immediate consequence of these attacks was a total deafness, which continued for three months; the hearing then began to return; and in about ten months from the last attack, it was restored to the state in which it at present remains.

By experiment, it was clearly proved, that the membrana tympani in each ear was incomplete, as he was able to force air from his mouth through the external meatus. On examination with a probe, the membrane of the left ear seemed to be entirely destroyed: in the

right ear, some remains of the circumference of the membrane could be discovered, with a circular opening in its centre, about the fourth of an inch in diameter.

The deafness was inconsiderable. When in company, if his attention was exerted, this gentleman was capable of hearing every thing that was said in the usual tone of conversation. He also played on the flute, and sung perfectly in time; but he did not hear at so great a distance as other people. His deafness was much increased by cold, apparently from an accumulation of wax closing the meatus, and by bathing, unless his ears were guarded against the water, by filling the meatus with cotton. Mr P. was liable to the sensation called the teeth being on edge, in the same degree as others; and he had acquired great command over the external muscles of his ear.

Mr A. consulted Mr Cooper for similar complaints, but in one ear only, proceeding from suppuration, and producing the same effects. The defect of hearing in the diseased organ, was greater, probably from the noise always produced by closing the sound ear,
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and perhaps from its being enfeebled by dis-
use, as he heard well on one side.

From these observations, it seems evidently
to follow, that the loss of the membrana tym-
pani in both ears, far from producing total
deafness, occasions only a slight diminution of
the powers of hearing.

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