

## Periscope.

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EXCERPTS WILL BE FURNISHED AS FOLLOWS:

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Authors are requested to make none but typographical corrections on the proof sent to them. The manuscript must represent the final form in which the article is to be printed.

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### PHYSIOLOGICAL.

***Relations Between the Auditory Apparatus and the Respiratory Centre, (Lo Sperimentale-Memorie Originali—Anno xlvii, fasc. 5 and 6.)***—Prof. Giulio Fano and Dr. Giulio Masini, of Genoa, Italy, from a series of experiments to determine the interrelations of the auditory apparatus and the respiratory centre, deduce the following conclusions:

1. A pigeon without semicircular canals presents profound modifications of the mechanism of respiration, which, in great measure, remain permanent, and presenting phenomena of deficient or of anomalous sensory impulses.

2. These modifications of respiration are much less notable when only the cochlea is extirpated, though it appears that this part acts most manifestedly upon the respiratory centre.

3. The semicircular canals react from the acoustic impressions, upon respiration pre-eminently in an inhibitory manner, while the cochlea causes an acceleration of respiratory rhythm, similar to that produced by the normal internal ear.

4. The respiratory movements approach the normal when after destruction of the semicircular canals the cochlea is extirpated.

5. Respiratory movements reflect very sensitively the impressions made upon the ear so that they may be employed as a sort of test of auditory sensitiveness.

6. In this manner one may demonstrate how sensitive the acoustic nerve is to auditory impressions.

7. Partial lesions of, or total lesions of, the organ of hearing impress permanent functional disturbances upon the bulbar centres.

8. These lesions are more severe if partial than if total.

9. The intensity is in correspondence with the severity of the disorders of equilibrium and movement

There seems to be a sort of functional antagonism between the semicircular canals and the cochlea. Of this they will treat more thoroughly in a work soon to be published on the cerebral influence of phenomena consequent upon lesions of the internal ear.

F. H. P.

#### PATHOLOGICAL.

***Abstract of the Theory of the Mechanism of Cerebral Injury by Contre-Coup,*** (*The Birmingham Medical Review*, January, 1894.)—Prof. F. J. Allen, of Birmingham, England, in a paper read before the British Medical Association on the theory of the mechanism of the cerebral injury by contre-coup, offers the following: When the skull is struck forcibly at a particular region—say the occipital—the comparatively rigid cranium is driven, as a whole, away from the point of impact (forward in this case), the brain, owing to its softness, lags behind, and tends to flatten itself against the cranial wall on the struck side (occipital). This may cause direct injury. But the cranial wall here supports the brain substance and distributes the force of the blow over a wide area, rendering the injury less acute. The chief injury occurs on the opposite side (frontal), where the lagging brain tends to move away from the cranial wall and receive no support from it. At the centre of the unsupported surface there is a point where the soft brain substance is tending to depart in all directions in the act of flattening itself. At this point of greatest strain the rupture will occur. After the first rupture, waves of oscillations will follow, and these may increase