

tion of nerve tissue becomes like that of muscle, neutral or acid during its activity; but regarding this and any other asserted chemical changes in nerves Bowditch says, "It is therefore clear that chemical investigation gives us but little reason for maintaining a discharging in opposition to a kinetic theory of nerve action."

(b) *Heat production*.—After summarizing the evidence, Bowditch says, regarding this point, "It seems then that the results of thermometric investigations speak no more positively than those of chemical research in favour of a discharging rather than a kinetic theory of nerve action."

(c) *Nerve fatigue*.—After reviewing the results of several unsatisfactory experimental methods, the writer refers to those of Bernstein on muscular contractions as indices of effects on nerves. He came to the conclusion that a nerve may be exhausted by 5'–15' tetanic stimulation. Wedenskii, with improvements on Bernstein's method, "was unable to find any evidence of the exhaustion of the nerve even after tetanic stimulation had continued six hours." To further determine this point experiments were carried out at the Harvard Medical School, in which muscular contraction was temporarily prevented by *curare*. "In this way it was found that stimulation of the nerve lasting from one and a-half to four hours did not exhaust the nerve since on the elimination of *curare* the muscle began to contract." It thus appears that evidence of fatigue in nerves resulting from functional activity has not been proved.

"It is conceivable that the irritability of a nerve should depend upon its possessing a certain definite chemical composition constantly maintained by metabolic changes, and yet that the irritation of the nerve should produce no change whatever in its composition." All evidence so far on this "most mysterious and interesting process" is in favor of a kinetic as opposed to a discharging theory of nerve action.

OPHTHALMOLOGY.

Notes from Foreign Journals.

M. Beaunis has observed various atrophic lesions of the globe of the eye of a rabbit which had suffered a lesion of the facial nerve. He presented the animal having the lesions to the *Société de Biologie* and has likewise proved similar lesions in the ear; the secretion of tears is similarly al-

tered. M. Laborde is said to have observed a similar commencing atrophy in the eye of a rabbit following a simple section of the facial nerve. Brown-Sequard relates similar facts. According to him these troubles are due to irritations of the bulb due to traumatism.—*Gazette Hebdomadaire*.

Deutschmann (Jena) has found not only small caseous tubercles in the inferior portion of the iris, but also numerous white *taches* (spots) composed of a mass of round cells without any traces of bacilli. These same spots in the iris are similarly found after inoculation of leprous matter into the anterior chambers.—*Revue Générale D'Ophthalmologie*.

Fieuzal performed, during 1886, 459 operations for cataract, 320 without iridectomy and 139 with. The results without iridectomy were 238 (74%) good; 72 (22%) fair, and 10 (3%) no results. With iridectomy the results were 109 (78%) good; 25 (18%) fair, and 5 (3%) no results.

PHYSIOLOGY AND BIOLOGY.

Atavism.

Mr. J. Bland Sutton, in proceedings of the Zoological Society, London, by means of the classification of Prof. Gegenbaur, endeavors to show that all examples of atavism are paleogenetic and that none are neogenetic, or not found as a germ in the embryo; the prostate is supposed to furnish a remarkable instance of atavism, being regarded by the author as a suppressed uterus, the fibro-muscular tissue representing the matricial walls, the follicles corresponding to reticular glands and the reticulus itself being identified with the cervix uteri and adjacent portions of the vagina.

The prostatic concretions and eggshells, according to this gentleman also, agree structurally and chemically and are produced by homologous organs so that we appear to have in our prostate an unimpeachable witness of an ancestry with the feathered tribes low down among the oviparous reptiles. Dealing with secondary sexual characters, the author urges that the known facts seem to point to the conclusion that the epiblast is chiefly derived from the male element while the female pronucleus is chiefly responsible for the hypoblast and greater portion of the mesoblast; if this be true the transmission of characters peculiar to the male is not so obscure as many have supposed.