

rise to rumbling sensations ("Gurren") in the abdomen. The author regards the sensations of the fish as akin to these, rather than to the auditory sensations of the human subject with head (and ears containing air) immersed in water near vibrating plate.

Rimbaud, Vernet. JUGULAR FORAMEN SYNDROMES. [Bull. d. l. S. M. des Hop., Vol. 42, 1918, No. 14.]

Injury to the pneumogastric and spinal nerves as they emerge from the jugular foramen gives rise to a definite syndromy here discussed. Hypertrophied glands are one of the most frequent causes of compression. There is characteristic paralysis of the superior constrictor of the pharynx, evident when the tongue is held down with the spatula. In phonation, the posterior wall of the pharynx is drawn toward the sound side. Swallowing of solid food is difficult. The paralysis may be so complete that swallowing is impossible. In the case described the patient twisted his head toward the side affected, to aid in swallowing. The syndrome had resulted from a shrapnel wound in this region which had not directly injured the nerve structures but probably gave rise to a compressing hematoma.

Nicholas, A. NOTE ON THE NERVUS TERMINALIS. [Bil. de l'Acad. de Méd., 1918, LXXIX, p. 250.]

Nicholas has studied the nervus terminalis in man, and also in many specimens of the chimpanzee and gibbon. Most of its terminal filaments go to that part of the mucosa of the nasal septum which is anterior to the area supplied by the vomero-nasal nerve: a smaller number are intermingled with the filaments of that nerve. The nervus terminalis is present in all vertebrates from Selachians to man; it is as definite in those forms where Jacobson's vomero-nasal organ is poorly developed as where it is highly developed; it is present equally in osmatic, microsomatic, and anosmatic animals. Nicholas confirms the presence of numerous microscopic ganglia on its course, in addition to a definite "ganglion terminale." He points out that from its great antiquity and its high degree of development in higher animal forms we must decline to look on it as having undergone any reduction in its evolution.

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2. PERIPHERAL NERVES.

Kent, Syndey. THE ASSOCIATION OF NEURITIS AND MYALGIA WITH SUB-NORMAL TEMPERATURE. [Practitioner, 1917, XCIX, p. 575.]

Kent, writing in an English journal, finds that the temperature is invariably sub-normal in lumbago, sciatica, and in all neuritis which is not complicated by, or symptomatic of, some febrile disease. He rejects the whole salicylate group of drugs which depress the temperature still lower: though they often give relief, he regards them as

"placebos." He goes on the rational plan—as far as war conditions permit—of re-heating the blood stream. So he gives fatty foods, as bacon, cream and butter, supplemented by olive oil by mouth, a table-spoonful after each meal. Cases are recorded which show cure in the course of a few days to a few weeks. He has noted a great increase in the diseases named, owing, he believes, to the enforced reduction in diet during the present war.

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Langley, J. N., and Hashimoto, M. ATROPHY OF DENERVATED MUSCLE.
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This contribution essays to clear up the effect of the usual methods of treatment on the atrophy of denervated muscle. Rabbits were used and comparisons were made (1) of the weights of corresponding muscles on both sides after bilateral denervation, one side only being treated; and (2) after unilateral denervation by comparing the weights of the corresponding normal and denervated muscles in treated and control animals. Various sources of experimental error in both methods were considered, including variations in weight of corresponding muscles, trophic changes with accompanying inflammation and connective-tissue formation, difference in the rate of atrophy, etc. In 17 weighed animals the maximum difference in weight of 153 corresponding muscles or groups of muscles in the leg was 9.1 per cent.; the difference was less than 4 per cent. in 75 per cent. of the cases. In a similar comparison made after about 3 weeks' bilateral denervation (sciatic or its main branches) in 6 animals on 23 muscles the difference was less than 4 per cent. in 43 per cent. of the cases, the greater range of variation being partly due to coincident inflammatory change. The difference in the atrophy of the several muscles probably did not exceed 1 to 1.5 per cent. Section of the Achilles tendon in 3 unilateral and 3 bilateral denervated cases caused varying degrees of connective-tissue growth, but no uniform effect on the atrophy. Continuous extension of the ankle-joint in 4 experiments for 5 to 6 hours daily caused a great increase in connective tissue and an independent increase in the weight of the muscle. Fibrillation of denervated muscle was only completely stopped by ionization with CaCl_2 , with a very strong galvanic current, in the anesthetized animal. In 3 experiments ionization with CaCl_2 once or twice a day caused trophic changes in the skin, with deposits of calcium, but no definite effect on the atrophy. A similar but lesser effect occurred in 3 experiments with Ringer's solution, while a beneficial effect on the atrophy was noted in 1 of 4 experiments with KCl. Rhythmic flexion half an hour twice daily for 18 days in one rabbit and massages for similar periods for 15 days in another animal caused a slight balance in favor of the treated side. As a result of unilateral denervation in 8 rabbits the atrophy at the end of 3 weeks in nearly all the cases was greatest in the gastrocnemius and plantaris, and least in