

vacuolar swellings. In this beaded network the protoplasmic prolongations approach each other, and it is principally there that the articulation by contact is effected.

To sum up, it cannot be maintained that the neurons are never continuous, and, consequently, the theory of connection simply by contiguity does not appear to him to be quite exact.

On the other hand, it must be recognized that, if the articulation of the neurons with each other is mainly one of contiguity, it is accomplished in the special manner already alluded to. J. C.

The Posterior Longitudinal Fascicle.—(*Hinteres Langbündel, Faisceau Longitudinal Postérieur*). Van Gehuchten (*Bulletin de l'Académie Royale de Médecine de Belgique*, 1895, No. 2).

The posterior longitudinal fascicle is a bundle of nerve fibres which passes from the proximal extremity of the mid-brain through the whole extent of the peduncle (Stamm) to the middle parts of the medulla oblongata, where it becomes mixed up with the fibres of the reticular formation. The said bundle is situated at both sides of the "raphe" ventrad from the aqueductus Sylvii and from the median part of the floor of the fourth ventricle. Van Gehuchten has studied the course, origin and connections of this fascicle in the brains of trouts by use of the methods of metal impregnation (Golgi's and Ramon y Cajal's methods). The result of his researches leads him to the following conclusions:

1. The posterior longitudinal fascicle is formed exclusively of descending fibres. Consequently it must be considered as a motor nerve bundle.

2. It extends from the proximal part of the mid-brain to the anterior column of the spinal cord. It increases in volume in caudad direction, by taking up new fibres from the adjoining gray masses.

3. Its most proximal fibres take their origin from cells which form a group situated at both sides of the median line, ventrad from the ependymary epithelium and dorsad from Meynert's fascicle; for a certain distance this gray mass which Van G. calls the superior nucleus of the "posterior longitudinal fascicle" accompanies the nucleus of the third nerve, being situated dorsad to it.

4. The remaining fibres composing the posterior longitudinal fascicle originate from cells scattered in the "trunk" (Stamm), most of which are situated along the descending root of the fifth nerve and at the level of the nucleus of the seventh nerve.

5. In their course through the "trunk" the fibres of the post-longitudinal fascicle give off numerous collaterals which ramify in the adjoining gray masses, especially in the nuclei of the third, fourth and seventh nerves and in the anterior horns of the spinal cord, thus connecting themselves with the cells which give origin to peripheric motor fibres.

6. Most of the fibres of the posterior longitudinal fascicle are direct (not crossed) fibres, part of them, however, originate from cells situated on the opposite side of the median line—crossed fibres.

7. Of the collaterals, which the fibres of the posterior longitudinal fascicle give off in their course, the larger part remain on the same side (direct collaterals), part pass the median line to ramify in gray masses of the opposite side (crossed collaterals).

8. The posterior commissure has no connection with the posterior longitudinal fascicle; that is, no fibres or collaterals of the latter are seen becoming fibres of the posterior commissure. ONUF.

Reil's Fascicle and the Cerebral Cortex.—By Prof. Déjerine and Mme. Déjerine (*Gazzetta degli Ospedali e delle Cliniche*, 1895, No. 46).

Based upon the result of the examination of nineteen brains affected with cortical lesions, the authors conclude that Reil's median fascicle (fillet) consists for the most part of fibres, the cells of origin of which are situated in the nuclei of Goll's and Burdach's (cuneate) columns. They

do not believe it proved, that the thalamus contains cells giving direct origin to part of said fibres. They find, however, that contrary to Flechsig's and Hoesel's views, the fillet does not present a direct and uninterrupted connection between the cortex on one side and Goll's and Burdach's columns on the other, but that this sensory bulbo-cortical tract involves two neurons, a bulbo-thalamic, represented by Reil's median fascicle (fillet), and a second one connecting the thalamus with the cortex.

ONUF.

PHYSIOLOGICAL.

The Physiological Action of Massage.—In the February 1st number of *Lo Sperimentale* (Florence) Dr. Carlo Colombo describes the action of massage upon the various secretory organs of the body and arrives at the following conclusions:

- a. Influence of massage upon the secretion of gastric juice.
 1. Without massage he was only able to collect in two hours time about 15 ccm. of gastric juice, which was collected in a small bladder. After massage he was able to collect in two hours' time forty cubic centimetres of juice, of which one part was mucus; the remainder was pure gastric juice.
 2. A massage of five minutes made but little difference in the secretion of the juice, but if continued for fifteen minutes the maximum secretory intensity is reached, and the proportion of hydrochloric acid and pepsin is not increased.
- b. Influence of massage upon the secretion of bile.
 1. The quantity and quality of the bile is not changed perceptibly after ten minutes of friction over the hepatic region, and of rubbing over the inferior border of the liver.
 2. After ten minutes of concussion the quantity of bile is increased considerably in four hours. The biliary salts of soda and cholesterine are more abundant.
 3. Twenty-five minutes of friction produces the same results as ten minutes of concussion.
 4. The best effect of the massage would be to combine ten minutes of concussion, with ten of friction.
- c. Action of massage upon the secretion of saliva.
 1. The submaxillary glands are most sensitive to massage; after five minutes of manipulation the secretion is increased.
 2. After ten minutes of massage the greatest intensity of flow is reached, in the submaxillaries as well as the parotids.
 3. The saliva secreted, the result of the massage is similar to that which is obtained when the chorda tympani is excited.
- d. Influence of massage upon the secretion of urine.
 1. The quantity of urine was considerably increased after a local application of massage over the kidneys.
 2. The specific gravity was not diminished, but there was an abundant supply of renal epithelium in the sediment and a trace of albumin was observed.
- e. Action of massage upon the secretion of spermatazoa.
 1. The action of massage upon one of the testicles produced double the quantity of testicular secretion than from the one not massaged.

KRAUSS.

On the Time of Appearance of Secondary Degeneration in the Single Tracts of the Cord.—Dr. K. Schaffer (*Neurolog. Centralbl.*), 1895, No. 9.

Schaffer performed total transverse section of the cord on cats. The animals were killed on the 3d, 4th, 5th, etc., day after the operation respectively. The cord was examined after Marchi's and Algeri's method.

1. The first degenerative changes were observed on four days after the experiment. In ascending direction there was beginning degen-