

concluded that the menthol exercised a specific influence on the nerves of cold, which were distributed with especial copiousness on the forehead. Menthol produced an effect on the nerves of warmth and the nerves of feeling of less amount than on the nerves of cold. A sensation of warmth after the rubbing in of menthol was obtained only at spots which were very rich in nerves of warmth. This was most easily obtained on the volar side of the lower part of the arm in the neighbourhood of the elbow joint. As analogous to his menthol experiments, the speaker called to mind how Prof. Herzen had quite recently communicated the observation that moderate pressure on the nerve-trunk produced a different effect on the cold feeling nerve-ends than on the warm feeling nerve-ends.—Prof. Albrecht, from Brussels, developed his views on the morphological significance of the auditory ossicles of the middle ear, of the external ear, and of the Eustachian tube. Respecting the auditory ossicles there had hitherto prevailed two views. There was, first, the German view, represented by Prof. Gegenbaur, according to which the joint between malleus and incus corresponded to the quadrato-mandibular joint of the lower vertebrates, incus answering to the os lenticulare, stapes to the os quadratum, and malleus to the os articulare. The second view was the English one, set up by Prof. Huxley, according to which all four auditory ossicles of the mammalia were homologous with the os quadratum. The speaker considered both views to be incorrect. As to the latter, the four auditory ossicles of the mammalia, seeing they lay between the fenestra tympanica and the fenestra ovalis, must in his opinion be the homologue of the columella of the reptiles, amphibia, and birds, which likewise extended from the fenestra tympanica to the fenestra ovalis. The columella itself was the homologue of the symplectico-hyomandibulare of the fishes. The auditory ossicles had nothing whatever to do with the quadrato-mandibular joint. The os quadratum of the lower vertebrates must, on the contrary, be sought for at an entirely different place, in the lower part, namely, of the pars squamosa of the temporal bone. At this place Prof. Albrecht had in point of fact observed in different cases fissures by which the superior part was separated from the zygomatic part, the proper os quadratum. The middle ear was, in the opinion of the speaker, divided by the columella into two sections, of which the anterior, the precolumellare, was, through the Eustachian tube, brought into connection with the larynx, and, through the anterior part of the tympanum, with the external organ of hearing. This whole section of the ear was, according to the view of Prof. Albrecht, the remains of a special pharyngeal gill-segmentation.—Prof. Flesch, as guest, communicated some results of his investigations into the peripheral nervous cells. The question of the histological diversity of the nerve-cells, which, by the labours of Stieda, had been solved in a negative sense, had again been taken up by Prof. Flesch. In order to a settlement of the question, he had applied himself to the peripheral nerve-cells and to different methods of staining. It was the colouring method with Weigert's hæmatoxyline and treatment with osmic acid which especially yielded beautiful results. The osmic acid had been used on quite fresh preparations, at most five to ten minutes after the death of the animal. The fact at once established itself that the nerve-cells, under precisely the treatment and under perfectly the same conditions of experiment, showed variations which were not artificial products. It was, first, possible to distinguish between stained and colourless cells. The former were mostly small, the latter large. The relation of the large pale cells to the small dark cells was a perfectly constant one, and that even in the case of different animals. In the peripheral ganglia the pale cells constantly amounted to 20 per cent., the dark to 80 per cent. In the spinal marrow, on the other hand, the number of the pale cells invariably amounted to about 40 per cent. On further investigation it came out that little colourless cells also occurred in small number. The occurrence of these differences among the nerve-cells under use of the most varied staining means and in various animals, especially, however, the determinate numerical relation of the various groups of nerve-cells in the peripheral ganglia and in the spinal marrow, were deemed by the speaker to be proofs that there was here a question of physiological variations. This difference might be of manifold significance. In the first place there might here be a question of various stages of development on the part of the nerve-cells—young, adult, and senile forms. In the second place the various forms might be the expression of a different nature on the part of the nerve-cells: one set being, possibly, motory, another sensory, and so on. In

the third place and lastly, these various forms might, in a manner similar to what had been observed in the glandular cells, be the expression of different states of activity or of rest on the part of the nerve-cells. By way of arriving at a decision among these different possibilities, Prof. Flesch had had a series of experimental investigations undertaken which had not yet come to a conclusion. The probability, however, was that the experiments in question pointed to functional variations on the part of the nerve-cells which were the subject of investigation.

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