ported studies of the first motor neurone in a man born without the left forearm. He now gives the results of his investigations of the other neurones. He found the first and second sensory neurones absent and the second motor neurone probably lacking.

4. *Motor Aphasia*.—(A continued article.)

J. M. MOORE (Beacon, N. Y.).

MISCELLANY

A CLINICALLY AND ANATOMICALLY EXAMINED CASE OF ISOLATED LOSS OF PUPIL-REFLEXES WITH ABSENCE OF PARALYSIS, TABES AND CEREBRO-SPINAL SYPHILIS. M. Nonne and Fr. Wohlwill. (*Neurol. Centralbl.*, 1914, No. 10.)

The authors report here upon a case of isolated loss of pupil reflexes, clinically and anatomically examined, in which the spinal fluid was examined for cell content, increase of globulin, Wassermann's reaction with negative result, and in which the brain and spinal cord were anatomically examined, without discovering a central nervous affection of syphilitic origin; moreover, signs of tabes and paralysis were wanting. Since the true loss of pupillary reflexes is rarely manifested from other causes, especially as the result of chronic alcoholism, and here lues had been present (infection thirteen years before), it could only be accepted that the isolated loss of pupil reflexes represents the clinical remnant of an earlier syphilitic, anatomical process which had spent itself. The authors accept this extinction of the process, since the fluid reactions are negative.

JELLIFFE.

CONTRIBUTION TO VAGOTONIA. W. Lublinski. (*Berl. klin. Wochenschr.*, 1915, No. 20.)

The vagus and the sympathetic act in opposition. If the organs provided with these nerves are to function normally both nerves must maintain an equilibrium. If one nerve overbalances vagotonia or sympathicotonia appears. The first is the more frequent. The author frequently had opportunity to observe: Laryngospasm, asthma, with complaints of cardiac and respiratory difficulties. The diseases of youth are mostly concerned, often through lymphatic symptoms, with glandular swellings, enlarged tonsils, and frequently also enlargement of the thyroid. The bluish, glistening flush on the face, outbreaks of perspiration, cold, bluish hands are striking. The palpebral fissure is narrow, the pupils are small and the eyes lusterless. Frequent swallowing movements are made on account of the excess of saliva. On the upper part of the body may be noticed a mottled redness, dermatographia. Stimuli in the region of the vagus may cause attacks of retarded, temporarily intermittent heart movements. Pressure on the eyeballs may cause that. The respiration is shallow, face pale, Aschner's phenomenon. Also on lying down a marked retardation of the pulse appears. Similarly it comes on in a squatting position or on bending the body forwards. Moreover, arrhythmia of the pulse may be observed, extrasystole. Whether it has to do with heightened irritability of the heart or injury of the heart muscles, the atropin test will decide. With those suffering from vagotonia even slight stimuli suffice to arouse alterations in the pulse, and so also will repeated rising in bed. A characteristic respiratory disturbance is cardiac obstruction in breathing, with laryngospasm and asthma. Automatically there is impulsion to deep breathing with a convulsive sensation in the upper air-passages. Pilocarpin can produce these phenomena artificially. The author looks upon vagotonia as a

result of disturbance of inner secretion. Vagotonia can be favorably influenced by atropin, since that reduces the irritability of the vagus endings. The atropin treatment must be a persistent one. Papaverin 0.03 also acts favorably. As a nerve tonic arsenic likewise recommends itself.

JELLIFFE.

CRANIAL NERVES OF *ANOLIS CAROLINENSIS*. W. A. Willard. (Bull. Mus. Comp. Zool. Harvard, Vol. LIX, No. 2, July, 1915.)

The general summary of this complete and masterly study of the cranial nerves of *Anolis* may be summarized as follows:

1. *Anolis* possesses the cranial nerves typical of the amniote vertebrate with one exception; there was not discoverable any representative of the spinal accessory nerve described in other reptiles, and the muscles innervated by this nerve in other forms seemed to be supplied in *Anolis* wholly from spinal nerves posterior to the second cervical.

2. The ganglia of the V, VII, IX and X cranial nerves are distinct from one another and all of their roots issue from the cranium through independent foraminæ. The ophthalmic ganglion also shows no fusion with the other portion of the Gasserian ganglion.

3. There is a wide distribution of sympathetic ganglion cells along the afferent rami of the cranial nerves. These form definite ganglia on the palatine VII (palatine ganglion), nasalis V (ethmoidal ganglion), maxillaris V (infraorbital ganglion), and on the mandibular V (mandibular ganglion). The topographical facts would lead one to associate the development of these ganglia with specialization of the glands of the head. No medullated nerve fibers were found passing through the connective tissue surrounding these glands. The presence of smooth muscle fibers in the head region might also affect the development of the sympathetic. The sympathetic system of the head in the matter of the arrangement of rami and ganglia (as worked out incidentally to the study of the cranial nerves), when compared with other described forms of reptiles, points to the existence of a typical reptilian type of quite constant character.

4. The nerve components (excepting the sympathetic) reach their end organs, or peripheral terminations, through the following nerve trunks: *Somatic sensory*, by way of the 5th nerve over the ophthalmic (rrm. frontalis and nasalis), maxillary mandibular rami. *Somatic motor*, by way of the III, IV, VI and XII nerves. *Viscero-sensory*, by way of the VII nerve over the palatine ramus and the chorda tympani; also by way of the IX nerve over the pharyngeal ramus and probably Jacobson's anastomosis; also by way of the X nerve over the superior laryngeal and recurrent rami. *Viscero-motor* (dark blue), by way of the V nerve by a number of independent rami and over the mandibular ramus; also by way of the VII nerve over the hyomandibular division and ramus hyoideus, also by way of the IX nerve over the pharyngeal ramus, and also by way of the X nerve over the superior laryngeal ramus. (a) This shows a greater reduction of the somatic sensory (as indicated by peripheral paths) in *Anolis* than is found in the described forms of other groups, such components not being found in nerves IX or X of *Anolis*, although their presence in the same nerves has been reported in each of the other classes of vertebrates. (b) Vestigial ganglia exist in a variable manner on the intracranial roots of X, which may be somatic sensory in their origin.

5. The morphological character of the fibers of different components is sufficiently differentiated to form types peculiar to each component. But the distinction in character appeared to be less than that described for the lower groups of vertebrates. However, there was considerable individual variation in the size of fibers. Nerve XII shows a marked difference in the size of