R. Foster Moore said "I have a few words only to say upon two somewhat uncommon causes of ocular palsy.

First Graves's disease, and secondly spinal anaesthesia.

As regards the first, there can be no doubt, I take it, that the extreme pushing forward of the eyeball which occurs in some cases, is responsible mechanically for some restriction of the complete amplitude of movement of the eyes; it is, however, clear that in some cases another factor or other factors come into play. Cases in which a definite muscular weakness appeared to be present are reported by:

Ballet (Rec. d'Ophthal., 1888, p. 321)
Bristowe (Brain, 1886, p. 313)
Warner (Med. Times and Gaz., 1882, p. 540)
Maude (St. Bartholomew's Hospital Reports, 1892, Vol. XXVIII)
Voss (Deutsch. med. Wochenschr., August 13, 1903)

and others.

In none of these cases has there been involvement of the internal branches of the third nerve.

I have recently had occasion to explore the orbit, in the case of a woman with Graves's disease, in whom there was general limitation of eye movements, and in whom the eyes were so proptosed that the eyelids on one side could by no means be brought together over the cornea, even under a general anaesthetic, and it was evident that if nothing were done, this eye in particular would be lost from corneal sloughing.

*Combined Meeting of the Neurological and Ophthalmological Sections of the Royal Society of Medicine, on March 10 and 11, 1921.
In the course of the removal of what fat was possible through an incision of the inferior conjunctival fornix, the inferior, external and internal recti muscles were exposed for some distance, and I was surprised to find that instead of flat ribbon-like muscles, they were oedematous and much swollen fusiform bellies.

In a case of Bristowe's ("Diseases of the Nervous System," 1888, p. 141) in which ophthalmoplegia externa had occurred and which came to autopsy, the muscles are described as being pale. Silcock (Trans. Ophth. Soc., U.K., Vol. VI, 1886) made a thorough histological examination of all the orbital contents, including the muscles and nerves, in such a case. He says: "there was nothing abnormal in the orbits except a most noticeable yellowish patchy discolouration of the recti and oblique muscles, which a microscopic examination proved to be due to interfascicular fatty infiltration, the muscle fibres themselves, though somewhat pale, showing no trace of fatty degeneration." "The levatores palpebrarum markedly contrasted with the other extrinsic ocular muscles inasmuch as they were normal in colour, or perhaps merely a shade paler than normal." The vessels and nerves were all examined histologically and showed no abnormality.

It seems probable then, that when deficient movement of the eyes occurs in Graves's disease, it is due to impairment of function of the muscles as a result of their infiltration by oedema, or by fat, or: perhaps by both, and that marked exophthalmos when present, will introduce a mechanical factor which will contribute towards the same effect.

With regard to the ocular palsies occurring after spinal anaesthesia: This is a somewhat rare complication, but the dependence of the paralysis upon the anaesthetic cannot be doubted. It comes on a few hours after the administration, is usually incomplete, and after persisting for a number of weeks tends slowly to be recovered from. The abducens nerve shows its vulnerability in this as in so many other conditions, for it is that alone which is usually affected. Reber (Jl. Amer. Med. Assoc., July 30, 1910) reports 5 cases in 2,000 spinal anaesthesias, and has collected 36 cases from the literature. Of these 36, the sixth nerve alone was involved in 32. I have seen 2 cases, in each of which it was the sixth nerve alone which was affected. The selective involvement of this nerve is not easily explained satisfactorily, but Harvey Cushing (Brain, Vol. XXXIII, p. 204) suggests that here, as in other cases of indirect involvement of the sixth nerve, the paralysis is due to the relation of the nerve to the anterior inferior cerebellar or internal auditory artery. He points out, that as the nerve runs directly forwards, in many cases it is crossed ventrally and at right angles by one, or other, or both, of these arteries. He suggests that if oedema of the brain occurs, these vessels are
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dragged upon, and cut into the pons somewhat like an indiarubber band, and constrict the sixth nerve to such a degree as to arrest temporarily its functions.

In a few cases the third nerve has been implicated, and if one is prepared to accept the existence of oedema of the brain as suggested by Cushing, one may suppose that when this nerve is affected, it is nipped between the superior cerebellar and the posterior cerebral arteries, with which it is in especially close relationship. And whilst this explanation may perhaps be felt to be somewhat unsatisfying, there is this to be said in its favour, that it is just these two nerves, the third and the sixth, which are notoriously apt to be indirectly affected in intracranial disease, and which are in most intimate relationship of all the cranial nerves with large arteries, and arteries, too, which being anchored ventrally by the basilar artery, tend to encircle the brain stem, and therefore are most likely to constrict the nerves."

DR. KINNIER WILSON said that with so many points of interest arising in a discussion of this sort, and so many speakers wishing to participate, he would confine his remarks to the question of a possible unilateral cranial polynейritis. It was a subject of considerable clinical interest and importance.

Frankl-Hochwart, of Vienna, had originally described a case of what that observer called polynейritis cranialis unilateralis, a condition in which several cranial nerves were involved on one side only, in which he had reason to suppose a toxic cause was at work. The symptoms cleared up under treatment. In the course of last year there had come under the care of Dr. Wilson, a pensioner who in Cairo developed pneumonia and pleurisy; he had had, in fact, a generalized pneumococcal infection and nearly died. When this illness was at its height, at about the end of the second week, he developed a complete paralysis of the 7th, 8th, 9th, 10th, 11th, and 12th cranial nerves on the right side only. When the man came under the speaker's care subsequently, there was unmistakable evidence of the 7th to the 12th nerves on the right side only being completely involved, motor and sensory indifferently. Syphilitic tests proved negative. The history of the case, the manner of its onset, its diffuse character, involving both motor and sensory nerves, strongly suggested it was a cranial polynейritis of a toxii-infective character. The man was now slowly improving, and his symptoms were to some extent subsiding. In that case there happened to be no involvement of an ocular muscle or ocular nerve, but he thought the same sort of process was applicable to other cranial nerve combinations, to which the term "rheumatic" was often assigned. During last year he had seen, at King's College Hospital, two cases, one involving the 5th, 6th, and 7th, the other the 6th and the 7th, on one side only. The second of these cases was that of a girl who certainly
had a "rheumatic diathesis." There was a history of exposure to cold, and she developed the familiar Bell's palsy, apparently coupled with slight but definite 6th nerve paresis. He could not prove the nature of the case pathologically, because it cleared up under anti-rheumatic remedies; nevertheless, he suggested, in the absence of any other aetiological factor, that one was justified in thinking it might be a transient polyneuritis cranialis unilateralis. The other case was that of a slightly older girl, in whom the 5th, 6th, and 7th were involved, and he had held a similar view of her case. On examining her at the end of six months, however, he found the opposite abdominal reflex absent, and he suggested in this case there may have been a small plaque of disseminated sclerosis. He only quoted it as a contrast to the others, in order to show how difficult it was to determine the aetiological factor in these cases. Unilateral cranial polyneuritis ought to be regarded as a clinical possibility. Several cases of the kind had been described in the literature. One was by Forli, in an Italian journal. It was that of an engine-driver, who always stood and worked on the right side of his engine, and was constantly exposed to wind and rain while on his journeys. Ultimately he developed a multiple paralysis of cranial nerves on the right side, with some pain, involving the 3rd, 4th, 5th, 7th, 8th, and 12th. The symptoms disappeared following the use of anti-rheumatic remedies. There was no question of syphilis in the case. When on minute review of such cases known infections could be excluded, and when the symptoms cleared up under treatment, it was fair to suggest a slight polyneuritis. Cases of unilateral neuritis of the arm, for example, were certainly known to occur, and if accepted as a clinical possibility, why should a cranial polyneuritis unilaterialis not occur similarly?

CONTACT-ILLUMINATION IN THE EXAMINATION OF THE CORNEA AND ANTERIOR PART OF THE EYE

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Continued from page 224.

Owing to the entire absence of any reflex from the clear cornea, it is not easy, for anyone unaccustomed to the method, to focus with the loupe the normal cornea under contact-illumination; it is best first to focus the pupil, and then to withdraw the loupe to the focus of the cornea, the plane of which is generally indicated by some small air-bubble or irregularity of fluid on the surface.