given. Considering what liability there is for the optic nerve to be affected by the disease itself I should personally feel disinclined to use a drug which tends to produce optic atrophy. If it is desired to use an arsenic preparation I would suggest salvarsan or neosalvarsan. Both preparations have had a long trial and do not appear to produce optic atrophy.

4. *Vaccines*.—The discussion on the use of vaccines in the treatment of the disease has been assigned to Dr. Colebrook, and I will not encroach on his sphere of action. I hope, however, he will make quite clear the possible value of vaccines in the prevention as distinct from the treatment of the disease.

Harley-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THE PSYCHOLOGY OF TRAUMATIC AMBLYOPIA FOLLOWING THE EXPLOSION OF SHELLS.

BY HUGH S. PEMBERTON, M.B., CH.B. LIVERP.,
LIEUTENANT, R.A.M.C.

THE paper by Mr. J. H. Parsons in THE LANCET of April 3rd on the above subject has reminded me of a case under my care which presented several features of psychological interest. The facts are as follows.

Sergeant —, belonging to a battery of field artillery under my medical charge, was working his gun under rather heavy shell fire on March 14th. His gun was No. 1. A direct hit was made on No. 2 gun with high-explosive shell, killing three men. I saw Sergeant — shortly afterwards, and although naturally excited he appeared otherwise normal. He went on working his gun until dawn the next day, when he collapsed and was found lying across one of the disembowelled corpses. In all he had been at work for about 12 hours continuously, during which time the battery had fired between four and five hundred rounds. I saw him again a few hours later; he was conscious but very feeble, and obviously much shaken. There was considerable amblyopia and distinct contraction of the fields of vision (rough test); no change in colour vision. The sense of taste was much blunted; he could barely distinguish between salt and powdered quinine tablets laid on the tongue. The sense of smell was practically absent, but this was not of much importance, as he stated that his smelling powers were at all times small. Hearing was naturally much affected, but not more so than that of several other men in the same battery; no tympanic fractures were discernible. There were no changes of cutaneous sensation in the face, arms, or trunk, but both thighs, from about the apex of Scarpa's triangle to the knee, showed curious alterations. There was partial anaesthesia—that is to say, a normally painful pin-prick was felt as a tactile sensation, while touching the skin lightly with cotton-wool was not felt at all. The patient merely complained of "numbness" in these areas. The motor changes were not striking; he naturally showed great fatigue in practically

every muscle; the eyelids were half-closed, but there was no nystagmus. On the other hand, he walked slowly with a distinctly spastic gait; the knee-jerks were brisk. Other reflexes appeared normal; the plantar reflex was of the flexor type. I sent him back to the wagon lines for a week where, while the sensory changes gradually disappeared, symptoms of mental distress seemed to increase. He still walked feebly and spastically, and reverted continually to the sight of the dead men at the next gun, one of whom was a friend of his. I finally sent him into hospital and he is now, I believe, in England.

There are several obvious factors in the production of such signs and symptoms. 1. Excitement during a prolonged and somewhat critical attack. 2. Over-stimulation of eyes and ears. The flashes of night firing are very brilliant, while many batteries close together and all firing rapidly invariably produce temporary deafness among the gunners. 3. Some natural fear from close hostile bursts. 4. Disgust at the sight of the killed, two of whom were decapitated and one disembowelled. 5. Great physical and mental fatigue from continuous laying of the gun during 12 hours.

But why these factors, which must have been operative to some degree at least in all those near, should produce those results in this particular man I leave it to others to attempt an explanation.

On Active Service.

NOTE ON A CASE OF CEREBRO-SPINAL MENINGITIS:

THE TENACITY OF THE MENINGOCOCCUS.

BY HENRY J. ALFORD, M.D. LOND.,
MEDICAL OFFICER OF HEALTH OF TAUNTON.

THE following case may be of interest in showing the length of time that the meningococcus may be found in the naso-pharynx after apparent recovery from the disease.

A case of cerebro-spinal meningitis was notified to me on March 2nd, 1915, on the morning of which the patient died, after an illness of five days. He was a boy, aged 9 years. On making inquiries into the case I found that his elder brother had returned from Deal (on his discharge from the army) on Feb. 13th. He complained of feeling ill, with pains in his head and limbs, and he went to bed, sleeping in the same bed as his younger brother already mentioned. In about a week he felt quite well and returned to his work in this town. On March 31st I took a swab from his naso-pharynx and sent it immediately to the County Bacteriological Laboratory at Weston-super-Mare, and on April 4th I received a certificate from Dr. W. G. Savage stating, "Meningococcus present."

The case is interesting as showing that although the germ will only live a few hours on the swab, it may do so for at least two months in the naso-pharynx

Taunton.

A "FLY-DANGER" EXHIBITION.—There will shortly be opened at the Zoological Gardens, Regent's Park, London, N.W., an exhibition for the purpose of demonstrating to the public the best ways of combating the danger which arises from the disease-carrying habits of the house-fly. Traps of all kinds will be shown, and the preventive measures to be taken where it is necessary to collect manure heaps for garden and horticultural purposes indicated.