There is another class of case of which a number, after having been treated by medical men for long periods, eventually seek the advice of an ophthalmic surgeon. These are cases of what may be called sore eyes. There may be slight conjunctivitis, lacrymation, redness and slight swelling of the edges of the lids, especially in the morning after sleep, and a sense of general discomfort. Lotions of all sorts have been used without any result. The ophthalmic surgeon almost invariably finds some slight error of refraction, generally a low degree of astigmatism. He orders suitable glasses and tells the patient to continue any one of the lotions he has already been using; recovery very soon takes place. There are quite a number of cases of Bright's disease which have never been discovered until the patient's sight has become affected and he consults an ophthalmic surgeon, either on his own account or by the advice of his medical attendant. The ophthalmic surgeon examines him with the ophthalmoscope and finds albuminuric retinitis, which means that the disease has been going on, perhaps for years, undetected and untreated; moreover, albuminuric retinitis is a late symptom and its occurrence is a sign that the patient is approaching his end. This is another instance of assistance given to medicine by ophthalmology.

Another class of cases in which the cause of eye trouble is often discovered when the patient consults an ophthalmic surgeon is a condition of general sepsis; the eye trouble need not necessarily be septic, though cases of septic inflammation of the eye do occur, but there is more often some interference with sight and want of power to use the eye without any very apparent cause. The ophthalmic surgeon finds weakness of accommodation and perhaps a slight error of refraction of which the patient was unaware whilst he was in good health; but having become weakened by septic infection from some self-contained cesspool he is troubled by what had previously been no inconvenience. A little inquiry will generally discover the cause, but whatever the cause may be it is the ophthalmologist who makes the discovery, not the practitioner of medicine, and he advises the patient to consult the dentist, nose and throat specialist, or general surgeon, with the result that the cesspool is drained or removed and the patient recovers. Other sources of infection allied to sepsis are gonorrhoeal or syphilitic virus, which every medical man knows are the main causes of iritis and many other affections of the eye; but I do not think that the profession at large is aware that gonorrhoeal infection is by far the most common cause of iritis, and responsible for all the most severe and troublesome cases. Nor do I think that general medicine will enlighten them on the subject. Iritis has from time to time been divided into many varieties, but I think (and fancy that a good many ophthalmologists are of the same opinion) that at least 95 per cent. of cases of iritis are gonorrhoeal or syphilitic, and there are some mixtures of the two.

Many nerve cases in their early stages are discovered by ophthalmologists. The patients may have consulted a medical man only because they had noticed something wrong with their eyes, and may then have been advised to go to an ophthalmic surgeon. Here again ophthalmology comes to the aid of medicine. The ophthalmic surgeon discovers possibly something serious, such as double neuro-retinitis or wasting of the optic nerves. But not unfrequently it is something very slight of which little or no notice has been taken by the doctor, such as slight diplopia. It may mean nothing, but, on the other hand, it may be the first symptom of serious nerve trouble.

I could give many instances in which medicine has been helped by ophthalmology, but think I have said enough. There is no place for the ophthalmic physician, and what the ophthalmologist does not know of medicine as it concerns his specialty no one else is likely to teach him.

I am, Sirs, yours faithfully,

CHARLES HIGGENS, F.R.C.S.

Brook-street, W., April 5th, 1920.

AN UNUSUAL FOREIGN BODY IN THE EAR.

To the Editor of THE LANCET.

SIR,—On April 4th a constable came to me at the City of London Police Hospital complaining of deafness and occasional pain in his left ear. On examination I saw a black glistening plug which I took to be impacted cerumen; the right ear was clear. I directed him to put almond oil into the ear and come up for syringing in two or three days. He came on the 6th and a nurse syringed the ear without result. He saw me at mid-day and I again syringed the ear and, after some rather forceful syringing, the plug moved outwards and I was able to help it out with the nozzle of the syringe, when it proved to be a beetle. When I announced this result the constable informed me that about 18 months previously he was in France, and sleeping on the ground under canvas. He awoke one morning and felt a tickling sensation in his left ear. He pushed his finger in and felt some squashing of an insect and the thing seemed to crawl right in; some blood (presumably the beetle's) came out of his ear. He went to the medical orderly in agony, and he put something into the ear and told him he must have had a boil or something of the sort, and what he took to be an insect crawling must have been due to the blood trickling when it burst. The orderly syringed the ear twice; and on some later occasion he saw another orderly, who syringed it again, but he never saw a doctor till he came to me. After removal of the insect the ear was clear, and he said he could hear properly again, and beyond some local redness about the handle of the malleus I detected nothing abnormal.

The beetle was singularly well preserved, legs, antennae, and case being complete. I took it to Professor A. Keith at the Royal College of Surgeons, and have received the following from him: "We had to send your beetle to the British Museum to be identified. His name is on annexed slip with the identification. He is a native of France. His length is 19 mm. and he is 7 mm. wide. We are keen on keeping the beetle and showing it in our Foreign Body series." On the slip was: "*Carabus convexus*. Fab.—Carabidae—predaceous beetles—feeding on insects, larvæ, &c., and on worms. *C. convexus* does not occur in Britain.—C. Gahan, Keeper of Entomology, B.M."

I am, Sir, yours faithfully,

A. P. GIBBONS, M.B. Lond., &c.,

April 26th, 1920.

Surgeon to the City of London Police.

LICE AS A CAUSE OF RINGWORM.

To the Editor of THE LANCET.

SIR,—About the year 1909 I began to suspect some causal relationship between lice and ringworm of the head. At that time I was examining some hundreds of cases of ringworm per week, and the more I saw of the disease the more convinced I became that my suspicions were well founded. In the majority of the cases examined I found either lice or the eggs of lice present. In the minority of the cases, where the actual presence of lice or nits could not be demonstrated, it was generally admitted by the parents that their children had recently suffered from lice or nits. The number of cases where no such history could be obtained was so small as to be almost negligible.

The fact that ringworm is most common in the elementary schools, much less frequent in secondary schools, and of fairly rare occurrence amongst children in public or high schools in the country, is, I think, incontrovertible. Why, then, should the disease attack in this special order of frequency, and what causal factor is there which corresponds? The presence of lice and their eggs follow exactly the same distribution—that is, they are found rarely, and then only sporadically, amongst public and high school children, to some extent in the secondary schools, and quite commonly in the elementary schools. Considering the presence of two conditions identical in distribution, I proceeded to make cultures from the hairs infected by ringworm

fungus, from lice found on ringworm heads, and from lice on heads which were not infected by ringworm. The results were such as to confirm my earlier suspicion, for from ringworm hair and lice from infected heads I grew ringworm (*Sabouraud's media*), but not from the lice of non-infected heads.

These experiments extended over a prolonged period of time and were considerable in number. From the results obtained I came to the conclusion that infected lice provide one means for the transference of ringworm from one child to another.

I do not suggest that the louse acts as a host in the usual acceptation of the term, or that there is any cycle of change, but I do suggest that the fungus is carried on the body or extremities of the louse, which is thus merely a direct carrier.

I do not wish to exclude direct infection from one child to another; this probably does occur, but in quite a small percentage of cases. Whilst I was making these researches the war broke out, and unfortunately my notes and data have been lost or destroyed. My object, however, in bringing the meagre facts to the notice of the profession is that others who have laboratories and the necessary time may carry these investigations further. My experience of school medical work suggests that the incidence of ringworm will lessen as the warfare on lice continues to be rigorously carried on.

I am, Sir, yours faithfully,

ALGERNON E. L. WEAR,
School Medical Officer, Leeds.

April 26th, 1920.

THE DIAGNOSIS OF MALARIA.

To the Editor of THE LANCET.

SIR,—I should like to make a few remarks in connexion with Colonel Mathew D. O'Connell's letter on the Diagnosis of Malaria, which appeared in your issue of Feb. 28th. I regret that my absence from England has precluded me from writing this note earlier.

So far as the army in India is concerned, it is only after many years of continuous effort that we have established microscopical examination of the blood as a routine measure in all military hospitals in cases of pyrexia, both in cantonments and in the field. It is impossible to exaggerate the enormous advantage to the health of the troops that has resulted from this practice. The statistics given in the Reports of the Sanitary Commissioner with the Government of India indicate the extent to which malaria has undergone reduction in the army in India during the last 20 years, and this is due, at least partly, to the more accurate and definite diagnosis of malaria by microscopical examination of the blood.

From experience in the field as an administrative medical officer I know that carrying out blood examinations properly in all field ambulances and general hospitals is an exceedingly difficult undertaking, but every effort has to be made to see that it is done. The war has taught us much, and it is inconceivable that at the present day our Home or Indian Government would send an army into a malarious country without an efficient staff of medical officers and subordinates capable of carrying out blood examinations and the means of doing so. Blood examinations by the microscope are of special value in diagnosis in India, where we meet with several varieties of fever; during these examinations we at times unexpectedly come across parasites other than those of malaria. For example, in the recent Afghan campaign, in one Indian general hospital three cases of relapsing fever were so discovered, and in the epidemic of relapsing fever in Meerut in 1917 several cases diagnosed as malaria initially were found to be relapsing fever, and some years ago I remember Lieutenant-Colonel C. Dawes, I.M.S., showing me a case in Lansdowne which was thought to be malaria, but in which *Spirochaeta carteri* was found in the blood. Dr. Philip Manson-Bahr refers to similar cases in his letter on the same subject in your issue of March 13th. In passing I would take the liberty of endorsing all that is stated by that talented writer in the letter referred to.

Our present methods of microscopical examination of the blood undoubtedly fail to diagnose malarial

infection in a certain proportion of cases in which it is present, but I hold that this demonstrates the necessity of improving our methods rather than doing away with them. We are in India in possession of abundant evidence pointing to the necessity for more continuous examination of the blood for parasites in fevers of unknown origin in malarious stations and in the field. Let me quote one group of facts in support of this statement. In the Burma Division up to August, 1911, a large percentage of "fever" cases were returned as "pyrexia of uncertain origin," the practice being to rely upon a single examination of a stained blood smear for malarial parasites. From that month onwards daily microscopical examinations of the blood in all cases of undiagnosed pyrexia were carried out, quinine being withheld until parasites were found in the peripheral blood. Over 9000 slides were examined in connexion with 715 infections. In one case parasites were not found until the eighth day, in 2 on the seventh day, in 5 on the sixth day and 4 on the fifth day, in 11 on the fourth day and 43 on the third day, in 127 on the second day, the remainder on the first day; in other words, in a high percentage of proved malarial infections parasites were stated to be absent during the first paroxysms. In two Indian battalions quartered in Mandalay, which used to be a very malarious cantonment, six months after the adoption of this change the place of practically all the cases of fever of uncertain origin was taken by malaria in the returns. A similar series of facts was recorded in the 6th (Poona) Division in the last quarter of 1913, although these latter observations were not pushed to such a completely logical conclusion as those of the Burma Division.

The records of our military hospitals in India show that frequently malarial parasites are not found in the peripheral blood during malarial paroxysms. The chief reason given for the failure to find parasites is that the patients are at the time taking quinine either prophylactically or curatively. Personally, I consider that when malarial parasites are in sufficient numbers in the blood to give rise to malarial paroxysms they can in the vast majority of cases be found in the peripheral blood, especially if the thick-film method be employed and quinine be withheld temporarily.

The practice of giving quinine in cases where malarial parasites have been definitely shown by repeated microscopical examination of the blood to be absent is, I believe, therapeutically unsound. One great disadvantage of giving quinine in cases of doubtful fever is that after its use the diagnosis of the case may never be cleared up. When all evidence shows that there are no malarial parasites in the peripheral blood, abstaining from giving quinine can do no serious harm to the patient in the vast majority of cases. It may sometimes happen that the disuse of quinine in such cases for some days enables the diagnosis to be settled by parasites appearing in the surface blood. Although we know that quinine is a specific in a large proportion of cases of malarial infection, the fact that it brings about the disappearance of pyrexial phenomena does not prove that the fever is malarial. Quinine is an antipyretic apart from its plasmodicidal properties. It is considered that as a routine practice no case of fever should get quinine until malarial parasites or other changes in the blood indicate that the case is one of malarial fever or that the clinical manifestations are definitely those of malarial paroxysms.

It has never come to my knowledge that abstaining from giving quinine in doubtful cases of fever while the diagnosis was being cleared up has been injurious to the patient. Nevertheless, we cannot alienate the responsibility of the officer who is treating the case, and he must decide for himself whether quinine is to be given in any particular doubtful case or not.

In the Burma Division in all cases of P.U.O. a blood examination for malarial parasites consisted of the following carried out on three consecutive days: (a) Examination of two stained smears; (b) examination of two fresh films; (c) examination of a stained thick film; (d) examination for pigmented leucocytes; (e) a large mononuclear count. The first two will