larynx has a very much more healthy appearance; the vocal cords are practically white, the swelling of the mucous membrane is very much diminished, and her voice is normal.

CASE VI.

Miss M. F., aged 32, school teacher, admitted October 1st, 1906. On admission this patient gave a history of two years' general failure in health, with loss of weight and strength; cough and huskiness came on first in February, 1906, but she remained at her work until six weeks before admission, when she was compelled to give it up, largely on account of her loss of voice. Examination on admission showed that she had infiltration of the upper and lower lobes of the right lung. In her larynx there was an ulcer on the interarytenoid fold, and also on the posterior end of the right vocal cord, there was also a longitudinal cleft at the posterior end of the left cord, and both cords were in addition considerably congested. She had marked hoarseness but no dysphagia. Her general health was poor, she was obviously below proper weight, and had slight fever. For her laryngeal condition she was prescribed complete vocal rest and a spray of zinc sulphate. She has persevered very thoroughly in the treatment prescribed for her, with very satisfactory results. At the present time—she is still a patient in the Sanatorium—her lung disease is arrested, and her general health wonderfully improved. She has gained 16½ lb. in weight, and is walking eight miles daily, her temperature being absolutely normal. The larynx has greatly improved, the cleft in the left vocal cord has quite disappeared, and there is now only a scar in the interarytenoid fold; the general anaemia of the larynx has quite disappeared, the congestion of the vocal cords is much diminished, and the voice is clear.

REFERENCE.

¹ Therapeutic Value of Complete Vocal Rest during the Sanatorium Treatment of Laryngeal Tuberculosis. BRITISH MEDICAL JOURNAL, December 8th, 1906.

An Address

ON

THE VALUE OF OPHTHALMIC SYMPTOMS IN GENERAL DIAGNOSIS AND PROGNOSIS.

DELIVERED BEFORE THE RICHMOND DIVISION OF THE BRITISH MEDICAL ASSOCIATION.

By R. MARCUS GUNN, F.R.C.S.,

SENIOR SURGEON, ROYAL LONDON OPHTHALMIC HOSPITAL, AND
OPHTHALMIC SURGEON, NATIONAL HOSPITAL FOR
PARALYSED AND EPILEPTIC.

MR. PRESIDENT AND GENTLEMEN,—Cases presenting all degrees of complexity are met with in general medical practice, and you have frequently to deal with obscure symptoms in different organs of the body entailing difficult clinical analysis. I propose speaking to you about the aid that you may obtain in your work by paying due attention to ocular affections.

One important plea in favour of my theme is that such ophthalmic symptoms as I shall mention are easily observed, and do not need any very special training; one of the greatest charms of ophthalmic work, indeed, consists in the ease with which, generally speaking, our observations are made.

Much more attention is paid to-day by the medical practitioner to disorders of the eyes *per se* than obtained twenty years ago, and the early treatment of such affections as iritis, glaucoma, and ocular headaches has proved highly beneficial to the community. But I hold that there is still much to be desired in the recognition of ophthalmic signs as indicative of general disease. Accordingly, I desire to describe very shortly some readily-recognized symptoms which often present valuable evidence of past disease; which in some instances afford the earliest indications of a threatened serious general ailment; or, again, which are often of value in differential diagnosis when the true nature of a general affection is otherwise doubtful. Some of these ophthalmic signs are entirely subjective; others are first, or most readily, detected by subjective symptoms; while yet others are objective only.

Subjective Signs.

A patient, most often a woman between 20 and 30 years of age, comes with an account of rapid, recent failure of vision in one eye. Outwardly the eye looks normal, and the ophthalmoscope shows no fundus change. There may be deep-seated pain experienced on pressing the globe

backwards into the orbit, and even on moving the eye in different directions. The amount of failure of sight varies, but may be almost complete; in slighter forms the eye fails to distinguish small pieces of red and green at or near the fixation point. The pupil may contract fairly well to light for a moment, but then dilates again under continued exposure, behaving quite differently from that of its normal fellow.

We should here be justified in diagnosing some affection of the corresponding optic nerve in its course between the optic disc and the chiasma. Locally, the prognosis is favourable, as sight is usually gradually recovered in the course of two or three weeks. But the chief importance of the diagnosis lies in this, that a very large proportion (quite one-half) of these cases have already developed, or will within the next few years exhibit, other signs of disseminated sclerosis; and that we have to regard the retro-ocular nerve affection as a local "island" of this disease. We are thus prepared to guard our general prognosis, and may be enabled early to put the patient on a judicious system of life treatment. Cases of this kind are very liable to be confused with a one-eyed hysterical amblyopia, particularly as the same patient not uncommonly has other symptoms that are undoubtedly functional in character. Attention to the behaviour of the pupil which I have described is, however, sufficient to prevent such a mistake from being made. Further, although commonly enough there is no ophthalmic change at first, some days later we often find evidence of neuritis, and this is succeeded after some weeks by a decided pallor of this optic disc.

Occasionally, a patient who similarly complains of loss of sight in one eye is found, when we examine the nature of the failure, to have in reality lost half of each field of vision. Thus he may state that his right eye is blind, while, in fact, the right half of the visual field is blind in each eye, while the left half of each is still retained. This condition, *homonymous hemianopia*, is an evidence of intracranial disease, the site of the lesion being one optic tract, the visual centre in one occipital lobe, or, finally, the fibres connecting the tract and sight centre. There are indications in the nature of the pupillary reaction in such cases which serve to localize the lesion more precisely, whether it be in the tract or posterior to it, but into this question of finer localization I need not enter at present. In elderly people homonymous hemianopia is generally due to vascular disease, and may be a valuable indication of a more general arterio-sclerosis.

In a third important subjective group, the outer or temporal half of each visual field is lost (bitemporal hemianopia). This is a symptom of localizing value as showing the presence of some disease involving, usually by pressure, the part of the optic chiasma where the optic nerve fibres cross. It is found in cases of tumours or hypertrophy of the pituitary body, among other causes, and sometimes constitutes an early symptom in acromegaly.

Ophthalmic Signs connected with the Position of the Eyeballs in the Orbits, and Muscular Anomalies affecting the Eyes and Upper Eyelids.

Prominence of the eyeballs, when accompanied by retraction of the eyelids, gives rise to a remarkable staring facial expression familiar as a common symptom of Graves's disease or exophthalmic goitre. This appearance is often what leads us to look for clinical evidences of this disease. In early stages the proptosis may not be well marked, and where our suspicions are aroused we ask the patient to look slowly downwards, and note whether the upper lid drops gradually as in health, or whether it lags behind, remaining for some time in its initial retracted position. This latter is a valuable sign of Graves's disease, even in its slighter forms and earliest stages, and if accompanied by decided tachycardia and muscular tremors the diagnosis may, I believe, be considered complete.

Nystagmus is occasionally of more than local significance. By nystagmus I mean a fairly rapid to-and-fro movement of the eyes, often constant, and always very evident when one attempts to examine the fundus with the ophthalmoscope. It is common in those whose sight has always been defective. But when met with in association with normal eyes, and when of comparatively recent development, this symptom is of value as indicating the

probable presence of disseminated sclerosis; in these cases the nystagmus is generally much exaggerated on directing the eyes well away from the middle line. Slight, quick, jerking movements in one direction, with slow return, present only on extreme conjugate movement of the eyes to the right or left, must not be mistaken for true nystagmus.

As regards paralysis of the external ocular muscles, I would say only a very few words to you. A slight impairment of movement may be difficult of recognition apart from a study of the subjective symptom of diplopia so produced, but there is generally little difficulty in recognizing paresis of the third or of the sixth nerves. As regards the nature of the affection, apart from cases manifestly due to injury or to orbital disease, it is important to consider the question whether the lesion affects the nerve trunks or the nerve nuclei. It would be foreign to my present purpose simply to enumerate the different more common causes of ocular paralysis, but there are one or two points that I would have you bear in mind. In cases in which you have found evidence of intracranial tumour, the presence of sixth-nerve paralysis is in itself of no real localizing value; one or both sixth nerves may be affected from a tumour in any position, seemingly as a result of the rise of intracranial tension only. Secondly, we must recollect that paralysis of ocular nerves, usually temporary, is not uncommon in early stages of locomotor ataxy, and may be valuable in directing our examination to other more definite features of this disease. Lastly, in young people, an unexplained sixth-nerve paralysis should make us consider the possibility of a recent attack of diphtheria. In one severe epidemic of this disease I met with a considerable number of cases in which, always along with other nerve lesions, this somewhat exceptional sequela was present. I need not impress upon you how important the proof of this sequence may sometimes be; when present, therefore, in a suspected case, other evidences of post-diphtherial nerve poisoning must be looked for.

Occasionally we may meet with decided drooping of both upper eyelids, of comparatively recent onset, in young or middle-aged adults. The condition I mean is distinguished from a limited paralysis of the third nerve by the facts that both upper lids are affected, though not always equally; and that the lids can be voluntarily raised momentarily, only to drop back into their former position; and that a repetition of this voluntary elevation of the lid rapidly exhausts it, so that it then remains drooped notwithstanding all voluntary efforts until a considerable time has been allowed for its recovery. Where these lid conditions are present, the action of other muscles should be investigated, as they constitute a prominent early symptom in myasthenia gravis.

Pupil and Accommodation.

As to the clinical value of observations on the pupil, there is much more to be said than time admits of now. You are familiar with the Argyll-Robertson phenomenon, where the pupils contract well with convergence but are inactive to light, a condition diagnostic of late or post-tertiary syphilis, and an early—sometimes the earliest—evidence of the onset of locomotor ataxy. If, along with this phenomenon, there is marked inequality in the size of the two pupils, you should suspect the probability of the occurrence of general paralysis.

When we examine the reaction of the normal pupil to light, we find that, after its first contraction, though still exposed to light, it dilates a little once or twice, but soon comes to rest. In some conditions these oscillations are continuous, and this oscillatory pupil is very marked in ordinary epileptics.

Marked inequality in the size of the pupils is often due to implication of one cervical sympathetic, such as may be produced by the pressure of a deep enlarged gland, a tumour of the oesophagus, or a carotid aneurysm. I need hardly remind you that when the sympathetic is merely irritated the corresponding pupil is wide; but if there be an actual loss of action in these sympathetic fibres the pupil is smaller than normal, and cannot be dilated by cocaine.

Cycloplegia, or paralysis of accommodation, is not an uncommon sequela of diphtheria; it may follow attacks where the throat affection has been slight, and may then prove most valuable in showing the true nature of a series

of throat cases. On several occasions, by the presence of this symptom, I have determined the diphtherial nature of what had been considered an ordinary follicular tonsillitis in children. Complaint is made of inability to read ordinary type; both eyes are affected similarly; the pupils are very rarely dilated and act well to light; the condition usually occurs some weeks after the sore throat, though I once found it present while the tonsils were still covered with diphtherial membrane. (I need hardly say that in this case also the nature of the throat affection had not previously been recognized, from the mother not having sought advice for it.) The cycloplegia only lasts some three weeks or so, and is therefore of no great consequence in itself, but its recognition must always give rise to some anxiety as indicating severe poisoning of the nervous system, and it is frequently accompanied by other signs of this, such as paralysis of the soft palate, loss of knee-jerk, and sometimes by grave symptoms of cardiac failure.

Cornea and Conjunctiva.

Apart from subjective symptoms and such functional disturbances as we have been considering, actual disease of ocular tissues is not infrequently of great general diagnostic value. Such affections of the anterior parts of the eye may be dismissed in a few words.

The clinical picture of interstitial keratitis and the associated teeth as drawn by Hutchinson has proved of inestimable value in enabling us to ascertain with certainty the presence of inherited syphilis.

The formation of greyish-pink nodules of exudate near the pupillary edge of the iris is sometimes useful in discriminating syphilitic from other forms of iritis.

Very delicate children within the first two years of life may develop a peculiar form of corneal affection, in which its surface becomes dry and semi-opaque, without photophobia; in such cases the entire cornea frequently sloughs, exposing the front of the iris and lens capsule. Such cases generally soon die, but the local affection is not in itself of great value in the prognosis, the general condition of malnutrition showing itself conspicuously in other ways.

Phlyctenular ophthalmia in adults, and repeated attacks in children, I regard as affording a strong suspicion of a proneness to tubercle, and this ought to be remembered in the general treatment of such patients.

The Fundus.

The mention of tubercle induces me to mention another class of cases sometimes met with in medical practice, and then usually in young adults. The patient has a morning and evening variation in temperature and abdominal symptoms suggestive of enteric fever. The diagnosis seems to lie between this and acute general tuberculosis, and the ophthalmoscopic discovery of one or more tubercles in the choroid has afforded important evidence as to the true nature of disease.

Now, Gentlemen, there can be no doubt whatever that every medical practitioner should know how to use the ophthalmoscope, and should have had opportunities of seeing and learning to recognize the appearances of the normal fundus and the more common fundus diseases. If in his student days he had given less than a tithe of the attention to the ophthalmoscope that he was rightly obliged to give to the microscope and the stethoscope, he would be able to see all that is clinically most important with this easily-used instrument. It is possible that I am speaking to men who are all well able to make ophthalmoscopic observations, but if there be any who desire to acquire or improve such knowledge, it must be a source of gratification to them that they can now turn to my friend Mr. Blair in your well-appointed ophthalmic department of the Richmond Hospital.

The changes in the intraocular end of the optic nerve constituting optic neuritis or papillitis are easily recognised, except when in their very early stages. This condition is found, sooner or later, in the great majority of cases of intracranial tumour, and not infrequently the diagnosis practically rests on this observation. The other symptoms must of course receive due attention, however, for optic neuritis occurs in other conditions, and it is only when it is present along with other characteristic symptoms that we are really justified in diagnosing intracranial tumour. Furthermore, we must not expect too much from the ophthalmoscopic examination in this disease; the

intensity of the neuritis forms no accurate guide to a knowledge of the nature or the size of the new growth, and its usefulness in localization is comparatively small.

The condition known as albuminuric retinitis is of more value in prognosis than from a diagnostic point of view, and this on account of two things: (1) The same clinical picture is sometimes present without the kidneys being affected, and (2) when it is present in renal disease there are usually other evidences of this affection.

As regards life-prognosis, however, the detection of albuminuric retinitis is most important. Amongst the poorer classes this retinal complication means that the end of life is drawing very near, and comparatively few survive more than a year. Among the well to do, where every care in diet, clothing, and attention to general hygiene can be exercised, the prognosis is not so bad, but even among these the probability of life does not exceed eighteen months to two years. The only exceptions to this unfavourable prognosis are when the retinitis accompanies acute nephritis, such as the post-scarlatinal, or when it occurs in connexion with the albuminuria of pregnancy.

There is one other ophthalmoscopic change which I must mention, and its significance must be recognized more and more as the importance of the early detection and proper treatment of general arterio-sclerosis is accepted by our profession. In the retina we have the unique privilege of being able to observe with care and accuracy these minute arteries which are so often the first to tell the tale of vascular degeneration, and the successive alterations in retinal vessels have now been followed and described with sufficient detail to enable us, in any given case, to give a shrewd guess concerning the stage at which the degeneration has arrived. That by this means we can predicate with an approach to certainty the condition of small arteries in other more vitally important tissues is no longer in dispute, and it is by this observation that we are often first able to diagnose granular kidney disease, and, at one late stage of the retinal arterial change, to anticipate with more than mere probability the imminence of grave evidences of cerebral vascular disease.

I have purposely given no verbal description of these ophthalmoscopic changes, for I feel strongly that such details by themselves are apt to be misleading, and at best fall far short of the actual pictures presented by the diseases in question. It is to instances of the affections mentioned that I would refer you, and I can assure you they are not uncommon.

It may be, Gentlemen, that I have appeared to you in these remarks to have unduly magnified the importance of one special branch of your work. I know that you have many points to think of and many facts to bear constantly in mind. My aim has been, not to add to these, but to present for your consideration a few clinical lessons gleaned from ophthalmology which may be of some service to you, and, if you think well of them, to induce you to take advantage of the opportunities this ophthalmic department will undoubtedly afford.

FOREIGN STUDENTS IN GERMAN UNIVERSITIES.—The number of matriculated foreign students on the books of the universities of Germany during the last winter semester was 4,151, being 9.2 per cent. of the total number of students. These foreign students were distributed among the several universities as follows: Heidelberg, 1,189 (16.1 per cent.); Leipzig, 662 (14.8 per cent.); Jena, 186 (4.6 per cent.); Berlin, 1,189 (14.5 per cent.); Königsberg, 134 (11.8 per cent.); Halle, 254 (11.3 per cent.); Freiburg, 164 (9.4 per cent.); Göttingen, 160 (9.2 per cent.); Munich, 416 (8.9 per cent.); Giessen, 84 (7.7 per cent.); Strassburg, 96 (5.8 per cent.); Greifswald, 43 (5.2 per cent.); Würzburg, 67 (4.7 per cent.); Marburg, 60 (3.9 per cent.); Tübingen, 59 (3.9 per cent.); Breslau, 77 (3.9 per cent.); Bonn, 88 (2.9 per cent.); Erlangen, 28 (2.6 per cent.); Rostock, 13 (2 per cent.); Kiel, 11 (1.4 per cent.); Münster, 11 (0.7 per cent.). Of the foreigners, 1,890 were from Russia, 681 from Austria-Hungary, 341 from Switzerland, 144 from Great Britain, 139 from Bulgaria, 83 from Roumania, 61 from Servia, 58 from France, 57 from Holland, 53 from Luxemburg, 47 from Greece, 40 from Turkey, 33 from Italy, 32 from Sweden and Norway, 23 from Spain, 19 from Belgium, 9 from Portugal, 5 from Denmark, 1 from Montenegro. In addition to these America sent 302 students, Asia 113, Africa 13, and Australia 11.

ACUTE COLITIS AND ULCERATIVE COLITIS.*

By SIDNEY PHILLIPS, M.D.LOND., F.R.C.P.,

PHYSICIAN AND LECTURER ON MEDICINE, ST. MARY'S HOSPITAL;
SENIOR PHYSICIAN, LONDON FEVER HOSPITAL;
PHYSICIAN, LOCK HOSPITAL.

THERE are few diseases so grave as acute colitis of which our knowledge is so deficient, and I think, therefore, the records of the following cases will be of interest:

CASE I.

A. W., a youth of 19, who had enjoyed good health except for rheumatic attacks, commenced on July 14th, 1894, to have diarrhoea, soon becoming severe; the motions were liquid and slimy, and there was pain after defaecation, but no tenesmus. The diarrhoea increased, the bowels being open eight times a day, and on August 13th he gave up work, melaena coming on, which increased till half a pint "like treacle," he says, passed with each motion, and on August 20th even more. He came into St. Mary's Hospital on August 23rd; he had vomited twice before admission. The tongue was quite clean. There was tenderness over the whole abdomen; the transverse colon was distended, and the abdominal muscles were kept tense. There was pain in the left iliac fossa before and after defaecation. The stools were loose, dark, and foul-smelling, with much mucus and no blood. He was ordered bismuth carbonate and opium, but continued passing seven stools a day, and soon experienced much pain over the sigmoid flexure and right iliac fossa. Occasional slight melaena till the 26th, when a clot passed the size of a crown piece.

On the 27th he complained of sudden severe pain in the splenic region; the spleen was not enlarged, and probably the pain arose in the splenic flexure of the colon. On the 28th there was much more blood in the stools and some pus. Up to the 29th he had only vomited twice, but he now commenced to return everything that was swallowed, and even enemata were not retained; his general condition was much worse, with prostration. On the 31st there was great pain and tenderness, especially over the left lumbar and iliac regions; bowels open, but merely mucus passed.

On September 1st, the abdomen, previously distended, became retracted; vomiting persisted, and on the 3rd hiccough came on; his pulse, previously only 84, ran up to 128 per minute on the 6th, and he died of syncope on the 8th, the hiccough having persisted from the 3rd until death; the temperature had been subnormal throughout. All along there had been some bladder strangury. *Post mortem*, on the outer surface of the colon numerous dusky patches of congestion; on opening it, it was seen to be intensely congested throughout, but especially the sigmoid flexure, and numerous ulcers were found in the caecum, ascending, transverse, and descending colon; in the sigmoid flexure the greater part of the surface was denuded of mucous membrane, the ulcers being only separated by narrow bridges of mucosa, which was quite shreddy. The upper half of the rectum showed ulcers, but the lower none; nor were there any in the small intestine or in the stomach; no peritonitis.

CASE II.

C. J., aged 48, a plumber, on December 7th, 1905, began to suffer from vomiting with abdominal pain and tenderness especially marked over the caecum and descending colon and most severe at night; there was much flatulent distension and slight melaena. After lying at home for three weeks under medical treatment, during the whole of which time he had hiccough and pyrexia, he came into St. Mary's Hospital on January 1st, 1906. He said that he had been perfectly well up to the date of his illness, which he at first attributed to some beefsteak pudding he had eaten; his doctor had thought it was lead colic.

On admission he lay on his back, with sunken eyes, groaning loudly, and incessantly coughing; he retched and vomited up most of the liquids given him; the colon was somewhat but not greatly distended; there was some tenderness over the sigmoid region and also at a point over the position of the hepatic flexure. His breath smelt almost gangrenous and his pulse could hardly be felt nor his heart sounds heard; he was clear in mind; the urine contained bile but no albumen; his temperature was 100° on admission, but fell to 96° on the next day, when he died of collapse.

The necropsy showed the whole of the descending colon to be in a state of sloughy ulceration exposing the muscular fibres; there was no perforation and no peritonitis.

CASE III.

L. M., a lady's maid, was attacked on July 17th, 1888, with severe lumbar pain, feeling of severe illness and diarrhoea. She had been previously in excellent health, had eaten nothing unusual, but had got wet in a thunderstorm the day before; there was nausea but no vomiting. She took to bed at once under medical treatment, but the diarrhoea increased, with occasional griping in the left hypochondriac region; there was no headache or epistaxis. She came into St. Mary's Hospital

* A paper read before the Ealing Division of the Metropolitan Counties Branch of the British Medical Association, January, 1907.