

leg had become limp. Three days later the urine, which from the beginning had had to be drawn off, had become alkaline and offensive, and on that day his temperature reached 103.4°. After this the pulse increased in frequency, the temperature rose irregularly, and on one occasion he had a prolonged rigor; there was a slight return of the paralysis of the left third, facial and hypoglossal; and the left arm and leg again became rigid. He then passed into a state of coma, and at the time of death (namely, noon Jan. 4th, 1882) his temperature had risen to 109.2°. The vessels of the pia mater were injected, but no trace of meningitis was discoverable. The posterior cerebral and some of the smaller arteries in the neighbourhood were much thickened, yellowish and opaque, apparently the seat of syphilitic disease; but the other and larger vessels were healthy. There was slight comparative softening of the left temporo-sphenoidal lobe, and the pons which was somewhat smooth, was soft and semi-fluctuating. On incising this part an irregular patch of broken-down brain substance was found to occupy the greater part of its right half, being separated from the surface and from the surrounding healthy substance by a zone of congested and apparently inflamed tissue. The rest of the brain substance was normal. No other important signs of disease were found. The post-mortem examination does not clearly explain the concurrence of left hemiplegia and slight paralysis of the left third; but, on the other hand, the softening of the right half of the pons accounts both for the left hemiplegia and the deviation of the eyes and head to the left. It is interesting in this case that while some of the larger arteries at the base were diseased they were not obstructed and that while the pons was the chief seat of softening the basilar artery was healthy. I suspect that in this case, as in some of the other cases I have quoted, where there was manifest syphilitic disease of arteries at the base associated sometimes with obstruction, and where patches of softening were found in regions with which these diseased arteries had no connexion, the softening was due to obstructive disease of the smaller vessels ramifying in the softened district.

OPHTHALMIC KNOWLEDGE CONSIDERED AS ESSENTIAL TO GENERAL MEDICAL AND SURGICAL WORK.¹

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THE subject of ophthalmic knowledge in relation to medical and surgical work is not new, but the time is suitable and the subject itself is ripe for further consideration and review. By certain new regulations the Conjoint Board of the Royal Colleges of Physicians and Surgeons has decided that all students commencing professional study after January 1st, 1892, must have received three months' clinical instruction in ophthalmic surgery at suitable institutions before being admitted to the final examination. We may expect therefore that this new lead will be followed in other directions, and that before long the ophthalmoscope is likely to occupy a very much more prominent place in the ordinary practice of our profession than it has done hitherto. I shall not be considered censorious or inaccurate when I state my belief that the bulk of the profession engaged in general practice derives little information or assistance from the use of this instrument. Want of skill, want of time, imperfect knowledge of what can be learnt and possibly inadequate remuneration for the time consumed in the investigations all contribute in divers ways to keep the ophthalmoscope in general practice very far below its capabilities. The investigation of ocular conditions has thus been handed over to a small number of men, and it has come to be regarded as not inconsistent with a reputation for sound general professional knowledge that the individual should candidly confess absolute ignorance of all pathological conditions of one of the most important, if not one of the most vital, organs of the body—an organ, too, in which changes associated with many common and important general diseases can be seen and watched *in situ* during life; whilst in the case of the larger viscera, which

we handle or palpate, percuss or auscultate, under the impression that we know all about them, the various alterations are much more largely matters of inference. No instrument probably since the introduction of the stethoscope has done so much to add to our general knowledge of disease, and none is more highly valued by those who have mastered its difficulties. My purpose now is to refer to a number of facts, nearly all of which can be illustrated by cases occurring in my own practice, to prove that the general practitioner should not consider a knowledge of ophthalmic medicine and surgery as outside his proper sphere, but rather that it should be the necessary complement of his professional knowledge. Many patients seek advice for general ailments, the only cure for which is the suitable correction of their refraction. Children in this way are often chronic invalids, till an observant schoolmaster, perhaps, detects their deficient sight, suitable glasses are provided and their recurring headaches and rhubarb and soda become from that time things of the past. The following instance will show how an important and, possibly, a serious mistake may result from so simple a matter. A child was admitted into hospital with some febrile disturbance and vomiting, complaining of its head and with an internal strabismus which had just appeared. When the physician went his rounds the probable existence of tuberculous meningitis was gravely discussed. As the child improved and the strabismus persisted the delusive quiescent period of that disease was not lost sight of. The child, however, remained so well that in a happy moment the ophthalmic surgeon was consulted as to the strabismus. It was due to hypermetropia. Such a case points the moral that every medical man ought to be able to distinguish between a paralytic strabismus and one due to hypermetropia; and that when a strabismus becomes a possible factor in a diagnosis its real nature should be decided. Mistakes in diagnosis are easily made and lead to errors in treatment in such cases; but it may be reasonably hoped that their numbers will diminish, for abnormalities of refraction are capable of immediate detection by ophthalmoscopic methods, which need the very minimum of skill and are quite within the power of anyone to acquire. The purulent ophthalmia of infants and the gonorrhoeal ophthalmia of adults are not liable to be overlooked. These serious diseases at once create anxiety and the medical attendant cannot release himself from his responsibilities, as he may prefer to do in less urgent matters.

In cases of phlyctenular ophthalmia and corneal ulceration, which he will frequently be called upon to treat if his practice is large, his responsibilities are not unimportant. The damage to vision from the irregular astigmatism produced by the corneal scars may seriously influence the choice of an occupation and the future prospects of the patient. As these ailments so frequently recur in the same individual and amongst the poorer classes, the practitioner is forced to deal with them, and it is important that he should know how to treat them well. He should not lose sight of the scrofulous diathesis with which they are so frequently associated, and should avoid measures for the local condition that would have a deteriorating influence upon the constitutional state. One point he should never lose sight of—viz., that if constitutional delicacy is a predisposing cause of the ailment refractive errors are often exciting ones. Another of the more common forms of eye disease with which medical men are familiar is interstitial keratitis. The evidence it may leave behind it, like the results of a symmetrical disseminated choroiditis, may furnish the clue to the existence of the syphilitic taint and in obscure conditions may have a diagnostic value. The discomfort arising from some of the ocular manifestations of syphilis may lead occasionally to the detection of the disease for the first time. Two persons presented themselves amongst my out-patients last week suffering from iritis. One was a woman who made no mention of a well-marked secondary eruption with which her body was covered. When it was pointed out she attributed it to "change of life," and stated that she had had no advice or treatment for it. The other, a young man, had contracted a venereal complaint not long before, and when he came with iritis was extensively affected with a severe syphilitic rash. He was undergoing no treatment and would have gone away without referring to it if its existence had not been sought for. These are cases whose real nature may easily escape detection. All who have studied syphilis as a whole should be familiar with its commonest manifestations in all the important organs of the body and know how to treat it both locally and constitutionally. But it is not only in syphilis

¹ The Presidential Address to the Huddersfield Medical Society, delivered Nov. 1st, 1892.

that iritis may occur; it may be produced by a deposit of tubercles, which may be seen studding the iris. The prognosis is not very favourable. These cases left to themselves are more likely to end fatally from tuberculous inflammation of the meninges or other organs than to recover; so that if good is to be done the treatment must be decided and prompt. Fortunately this form of iritis is not common, but it is important that its gravity should be speedily recognised and that it should not be left till it is too late to interfere with any prospect of success. Many years ago Mr. Hutchinson drew attention to the intimate connexion existing between certain cases of frequently recurring iritis and the rheumatic or gouty diathesis, and published a long series of cases in the Royal Ophthalmic Hospital Reports. This disease, which is one of the most troublesome and intractable forms of ocular inflammation, often seriously cripples those who suffer from it and may lead to more or less complete blindness. Where hospitals are distant and specialists unknown it is essential that the practitioner should distinguish and adequately estimate such conditions, so that he may carry out independently and intelligently a line of practice together with suggestions or hints that may come from those of greater ophthalmic experience.

With the introduction of the ophthalmoscope many pathological conditions were revealed within the eyes which experience has proved to be connected with, and often the result of, various constitutional diseases. The delicate and highly organised nervous and vascular layers of the fundus are, probably more than any other similar substance in the body, liable to be affected by diseases which seriously influence the nervous and vascular systems; and sight is so sensitive and of such value to the individual that any impairment of it is quickly detected by the sufferer and viewed with alarm. Thus it happens in many general diseases that the patient first becomes aware that something is amiss by the onset of defective vision. It is a pity that visual deficiencies do not attract more definite professional attention, for the custom is widely prevalent to go first to the optician for glasses rather than to the medical man for advice. If the optician has a fair knowledge of his business and is a conscientious man he frequently recognises at once his inability to help; but it is no uncommon thing to find much money spent on glasses, time wasted, and vision still further impaired before professional assistance is sought. For the intelligent use of the ophthalmoscope in general practice a certain amount of elementary knowledge is required. Without this appearances would often be misread or give rise to ideas that are vague or altogether mistaken; but when once this knowledge is acquired careful observation of the many intra-ocular conditions that are to be met with in abundance in practice cannot fail to be highly instructive, to enlarge our grasp of disease and of pathological processes and to prove eminently useful towards forming a sound opinion. Not the least important part of this elementary knowledge is anatomical—viz., the ability to decide in what structure within the eye the visible lesions are really situated. Many men are able to use the ophthalmoscope without difficulty, but are unable to give adequate reasons (anatomical ones, I mean) for ascribing certain conditions to the retina and others to the choroid. Consequently when they meet with appearances differing from those they have learnt to know by sight and labelled with a name they find themselves at a loss and unable to form clear and decided ideas about them. On the other hand, those who possess this knowledge and who are able to locate in the one or other structure or part of structure what they see have a sound foundation upon which they can build if they use their opportunities. The inflammatory and degenerative states and hæmorrhages which are to be met with in the retina they will trace in most cases to some constitutional disease or diathesis. In the majority of instances some form of Bright's disease will be the cause. In some the existence of retinitis will be of value as an evidence of advanced disease; whilst in others renal disease may not be suspected until the ophthalmoscope reveals an inflamed retina as the cause of failing vision. Not long ago I saw a woman in whom well-marked retinal changes led me to detect diabetes, until then unsuspected; and I remember another instance in which a medical friend and myself were greatly assisted in our prognosis by finding retinal hæmorrhages associated with diabetes and albuminuria. Sometimes pathological changes are seen in the retina in syphilis, in leucocythæmia, in anæmia, pernicious or simple, and in gout. Embolism of the central artery too, causing sudden blindness in the affected eye and typical ophthalmoscopic changes, may, like

embolism of a cerebral artery, be one of the disastrous results of cardiac disease. Choroidal mischief has much less significance as an indication of constitutional disease than retinitis, yet it sometimes affords information that may prove of the greatest assistance. I am permitted to refer to a case that some years ago was sent into the Fever Hospital supposed to be suffering from typhoid fever. As time passed the diagnosis remained uncertain. Curiosity prompted me to ask to examine the eyes, and I saw what appeared to be choroidal tubercle. The necropsy proved the accuracy of this supposition and the final diagnosis of tuberculous meningitis was correct. I know of another instance in which the timely recognition of tubercle in the choroid of a patient who did not seem seriously ill enabled a diagnosis to be made of acute general tuberculosis and a professional reputation to be saved from damage. Nor must I omit to mention the frequency with which various forms of choroidal disease are to be found in the subjects of acquired or congenital syphilis. In a large number of instances affections of the optic nerve are closely associated with some disease which lies well within the province of medicine or surgery. Optic neuritis is sometimes to be seen in albuminuria and it may be one of the more serious signs of lead poisoning. In my case-books I have a note of a man with double optic neuritis from syphilis of such intensity as to cause complete blindness, but which, under vigorous mercurial treatment, recovered completely with normal acuteness of vision, and one of my dispensary patients still under treatment who came for failing vision due to papillitis in his only good eye had an unsuspected chancre and a secondary rash.

Optic neuritis is developed in various intra-cranial diseases, but in cerebral tumour it is one of the chief diagnostic signs. We may all think ourselves competent to diagnose so gross a lesion as a cerebral tumour, but if we cannot use the ophthalmoscope we cannot do it without assistance. The surgeon of the future who may aspire to interfere with such growths will rightly deserve to be called "mechanical" rather than "scientific" if he is unable to arrive at his diagnosis without the coöperation of the specialist. Though primary atrophy of the optic nerve, as distinguished from post-neuritic atrophy, is also met with in plumbism, its chief interest lies in its connexion with sclerosis of the spinal cord. When a student I used to wonder that I never saw atrophied discs in the well-marked cases of locomotor ataxy which were common enough in the wards and amongst medical out-patients. But now I know that what I missed there is to be found in ophthalmic clinics. Here cases of primary atrophy are of sufficiently frequent occurrence in which a suspicion, a probability, or an absolute certainty exists as to their association sooner or later with disease of the spinal cord. The length of time that such conditions take to develop serves to deprive many of these cases of a good deal of their interest in hospital practice. But in private practice it is otherwise. If the progress of the disease is slow the interest of the medical man is kept alive as in the course of years he sees certainty issuing out of obscurity. Many years ago my sympathy was aroused on behalf of a comparatively young man who had been stricken with blindness. In due course I came in contact with him professionally and witnessed attacks which the term "gastric crisis" aptly designates. Their cause seemed unfathomable. The blindness was due to optic atrophy, and though the knee-jerks were still present I felt that these two interesting conditions had somewhere a connecting link; the patient's subsequent history may be full of interest for me, for I expect if he lives he will develop other symptoms which will leave the nature of his complaint no longer in doubt. Nor is atrophy the only ophthalmic symptom of interest in spinal cord diseases. Another case illustrates the transient paralysis of the ocular muscles which may be seen occasionally in the early stages. A female aged thirty-five, recently under the care of a medical colleague for vague pains in the head and limbs after influenza, presented herself amongst my out-patients with paresis of the right third nerve, which gradually increased and then improved, disappearing completely when after a couple of months a paresis of the left third nerve occurred. The duration of the second affection was only short. This patient had no knee-jerks, and when I referred her to my colleague he was able to elicit a description of true lightning pains. We may meet also with paralysis of the muscle of accommodation as a sequel of diphtheria. Such a case came to me not long ago and with it there was paresis of the soft palate muscles, which caused a nasal voice and permitted food to pass into the nose; yet, strange to say, it was the child's inability to read

that attracted its parents' attention. But the intricacies of the paralytes of the ocular muscles and of such conditions as hemianopsia are so valuable as localising symptoms in cerebral disease and so complicated and difficult to remember that it is no small satisfaction to know that we can find very valuable information about them in Mr. Swanzy's Bowman lecture in vol. ix. of the Ophthalmological Society's Transactions. Ophthalmic complications of considerable interest are sometimes produced by the most common diseases. There is ulceration of the cornea that is occasionally seen with herpes zoster of the first division of the fifth nerve; and I may here notice a similar condition that may result when the same nerve is implicated in disease. Amongst my records I find a note of one case in which an atrophied disc and complete blindness were attributable to an attack of facial erysipelas, doubtless with orbital cellulitis; and only recently I had to remove an eye which was found completely disorganised when an erysipelatous swelling subsided and allowed the lids to be opened.

For the investigation of ocular conditions connected with pregnancy the general practitioner has greater facilities than anyone else. When they occur in connexion with eclampsia and albuminuria the great and pressing danger to life tends to throw the sight affection into the background. But there are states in which the damage to vision may alone require consideration. Thus lately I have followed the progress of a case, which I hope soon to record in detail, in which there was every reason to believe that pregnancy was leading slowly and insidiously to optic nerve atrophy and complete blindness. By the kindness of Dr. Braithwaite the patient was admitted into the Leeds Infirmary for the induction of premature labour. Vision that had fallen to such an extent that the fingers could not be seen began to improve directly the immediate effects of the labour had been recovered from and is now about one-third of the normal standard. This result was the more gratifying to the patient and myself inasmuch as the other eye had been completely blind for years from atrophy which had come on in connexion with a previous pregnancy. Severe injuries often implicate the eyes, and important internal changes will take place within an eye as the indirect result of an injury in its neighbourhood. A conspicuous example of this not long ago left the Huddersfield Infirmary, where she was under the care of my father. A young woman was shot in the right temple, the bullet passing below the orbit, across the nasal fossa and lodging probably in the antrum of the opposite side. The bullet wound healed without the least trouble in a few days, but a remarkable series of changes took place within the eye as the result of the concussion. Inflammation of the ruptured choroid supervened in the yellow spot region, and, in spite of vigorous treatment, it ended in a central detachment of the retina and a serious and permanent defect in the very centre of the field of vision. It was instructive to watch the downward progress of events within the eye until the climax was reached, and the observer could not fail to be impressed by the great difference in the reparative powers possessed by the various anatomical structures.

Cases to illustrate my subject could be multiplied indefinitely. Note-books of ophthalmic work are full of instances in which ocular conditions have had to be traced back to states of health which lie strictly within the domain of the general practitioner, and the treatment in many instances resolves itself into that which is needed for the general bodily state. The specialist, so-called, simply fills the gap necessitated by an incomplete professional curriculum; but the process, though it has its pleasures, is not without its inconveniences. It is hardly comfortable for any party concerned when a patient who has casually drawn the attention of his medical attendant to a cataract and been referred to a specialist because eye diseases are out of his province has to be returned to the care of his own medical man because he is found to be suffering from diabetes. Yet these things do happen and will from time to time repeat themselves, until ophthalmic medicine and surgery become essential parts of medical and surgical work. Practitioners with but little acquaintance with ophthalmic literature will perhaps feel a difficulty in knowing where to turn for information presented in the form that is most useful to them. Text-books cannot be arranged to suit all parties, and the association of ocular conditions with various forms of disease or injury does not receive the attention it deserves in those which most men have at their disposal. Thus in two popular text-books on Diseases of the

Eye I can find no reference in the indices to pregnancy, and the notice taken of it in the text is almost as meagre; and yet the ophthalmic conditions connected with pregnancy furnished Mr. Power with material for a long and interesting paper—"Diseases of the Eye occurring in connexion with Pregnancy"—some twelve years ago. The best text-book, after all, is the eye itself. Systematic and regular observation of the things that are written there will furnish much fruit. Books are the outcome simply of clinical observation, experience and thought, and any man who will take the pains to acquire the elementary ophthalmic knowledge necessary for accurate observation can by careful work store up many facts. Sir George Humphry reminds us that facts may be regarded as pegs whereon thoughts may be hung, and thoughts as the rivets whereby the pegs are fastened.

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LOCAL DEPLETION.

BY JOHN BOYD, M.D. EDIN.

IN THE LANCET of July 30th, 1892, there is related the deplorable case of the Commendatore Giordani at Florence, who on the evening of the 14th, whilst walking in Vallombrosa, memorable from the reference by Milton, fell into a pit at the foot of an incline and was there assailed by a myriad of leeches ("litteralmente assalito da una miriade di sanguisughe"). On being rescued and removed to the hotel he died on the third day from the loss of blood in an enfeebled constitution.

In vol. xxix., p. 539, of the *Edinburgh Medical Journal* there is a notice of a communication in Italian sent to me by Professor Sota y Lastra of Seville, entitled "Una Mignatta estratta dalla Laringe quindici giorni dopo che vi era penetrata" ("A Leech extracted from the Larynx fifteen days after it had entered therein"). It states that on Aug. 3rd a man aged sixty-four, tall and robust, presented himself at the Polyclinica of Seville complaining of blood freely issuing from his mouth for fifteen days past. At the beginning of that period, being thirsty, he had drunk copiously of cold water from a ditch and immediately after felt constriction in the throat, respiration becoming impeded and voice extinct. After this he was obliged to cough continuously owing to tickling in the larynx. Several hours afterwards blood commenced to issue from the mouth, a little at first, but abundantly later on. He was able to swallow solids and fluids easily. He slept badly, accessions of suffocation awakening him continually. In a few days he became visibly thinner, losing strength and colour. On examination Dr. Sota found the temperature normal; pulse rapid and weak; respiration painfully strident and quickened; thorax dilated fully; vocal vibration normal, as also percussion and auscultation, though the latter was impeded by the laryngeal stridor. Having introduced the laryngoscopic speculum he discovered a leech fastened to a reddish elevation of the epiglottis immediately above the anterior commissure of the cords, extending upwards and backwards, while the caudal extremity was fixed in the right arytenoid. After five attempts, necessitated by the restlessness of the patient, Professor Sota succeeded in extracting the annelide. This was followed by an immediate and complete recovery.

From the same author I have just now received a history of a case ("Sanguiguera adherida al nivel del Cuarto Anillo de la Traquea"—"A Leech attached to the Fourth Ring of the Trachea") originating in a similar subject from the same cause. But here there was neither dysphonia nor dysphagia, and after many efforts Professor Sota observed vermicular movements in a dark mass like coagulated blood at the anterior and middle portion of the trachea. By means of a ball of cotton moistened with a solution of chlorhydrate of cocaine of 10 per 100 applied to the locality and thereby anaesthetised he managed by the laryngeal forceps to extract a small leech 22 millimetres in length and 3 in breadth after difficulties in the achievement that seemed almost insuperable. As an offset to these instances of pernicious local depletion I may refer to one of a contrary character in the case of the poet-statesman, M. de Lamartine, who, in his "Pictures of the East," relates that when resting at Yenikeni, a village in South Bulgaria, he was seized with "fièvre et une inflammation du sangue," probably pneu-