woes is, that the poor sufferer shall put down a shilling on the counter which separates him from the registration clerk, who, having put the coin into the hospital till, proceeds to interrogate the applicant as to his means? So long as persons know that they will be received as patients at a hospital on paying a shilling, and stating that their earnings are below a certain standard, it requires no stretch of the imagination to understand that a premium is offered to improvidence and fraud. By such a system the hospital is made a vast competitor against provident sick clubs, and the self-respect of the working population is undermined by inducements to untruthfulness, with practical immunity from detection. Under such circumstances, the hospital becomes not only a training school of pauperism, but of duplicity. A fixed standard of weekly earnings is a very fallacious test of fitness for hospital relief. A man with twenty-five shillings a week may be much better off, and from the nature of his ailment less entitled to relief, than one with higher wages.

If one of the young physicians who, at a sitting in one of our free hospitals, sees a couple of hundred patients, possessed all the qualities for a future Sir William Jenner, how could he do justice to his work, or to himself? If, however, the bulk of those patients were distributed amongst a score of general practitioners attached to one or more provident dispensaries, there would be some chance that their ailments would be traced to their causes—that these would be attacked and removed. Cases of special clinical interest doubtless receive more attention; but the great desideratum is to attend, with all available means, to comparatively trivial ailments before they acquire exceptional interest; not to reserve consultations and scientific resources for times of great danger, but to widen the scope of their preventive influence. The figures which I have quoted make it pretty plain that the state of things in our local hospitals, more especially in the free ones, is rapidly approaching a dead lock. If, on the basis of the experience of the last ten years, we endeavour at present rates of progress to forecast for the next decade, the result may be thus stated:

Year.	Population of Birmingham.	Persons relieved at the local medical charities.	Ratio of persons relieved to population.
1867 ..	325,895 ..	66,671 ..	1 in 5
1876 ..	371,839 ..	104,048 ..	1 in 3.5
1886 ..	422,436 ..	162,379 ..	1 in 2.6

If the data of previous decades were at hand for a strict calculation, the result would be still more extraordinary than that arrived at by a calculation in simple proportion: but I prefer to understate the case. The above figures show that in the twenty years from 1867 to 1886 inclusive, the population of Birmingham will have increased 96,541, and the number of persons relieved by the medical charities will have increased 96,661—i.e., every single individual added to the population will have been represented by an additional applicant for gratuitous medical relief.

It would be a waste of words to expatiate on the magnitude of the social evil which those figures represent. The question is, *What is the remedy?* The first thing to do, after discarding fondness or antipathy for either the plan of recommending by notes, or the free system of hospital administration, is to collect all the facts bearing on the causes and extent of abuses in our medical charities. Sooner or later such inquiry must be instituted; and the members of our Association, who as a body are most deeply interested in the issue, will do well to promote such an investigation as the whole case demands. In such a conference, others besides the managers and staffs of our medical charities ought to take part. Whatever the evils of the present state of things, those bodies are responsible for them: in various manners and degrees, it is true, but still responsible.

Referring to the crowds of out-patients at our medical charities, the executive of the Local Charity Organisation Society remark:

"A very large proportion of this enormous number of out-patients could afford to pay the cost of their own doctoring, if that payment could be made in the form of a small weekly payment during times of health as well as of illness; while they would generally be unable, especially when ill, to meet the lump sum of a doctor's bill. The need here is the machinery for bringing the payment for doctoring within the reach of the poorer classes, and this can be done by the establishment of provident dispensaries, as is shown by their success in many other towns. By small weekly contributions to these institutions, the working classes are enabled to pay the cost of their own medical attendance and medicine, and are thus able to avoid the humiliating position of becoming recipients of public charity whenever they are out of health. Any change in this direction seems to us to be hopeless until provident dispensaries are provided."

On this hospital question the working men have invaluable experience to contribute. A well chosen body of their representatives, trained in the work of their provident societies, would very soon throw

light on some of the principal causes of hospital abuses, and the best means of checking them.

A number of provident medical institutions exist already in our midst, but they only very imperfectly fulfil their object. Their plan of work and method of relief, their rates of subscription and of payment to medical officers call for thorough and careful reconsideration. On the principle of mutual assurance, it is possible to make efficient provision for the health of the working classes, including the wives and children, and the object is one which deserves very thoughtful and earnest co-operation in the broadest and truest sense of the term. Hospital abuses will assuredly lessen in direct measure as means are provided and organised for securing the self-respect and health of the people, as two of the chief factors in the nation's happiness and wealth.

No sudden change is possible; but no time should be lost in endeavouring to bring about a more healthy and a more just state of things. We only seek for the reform of such abuses as are demonstrably injurious to society generally. We have unabated confidence in the power for good which the knowledge and practice of the great truths of our profession bestow. We look forward to being able to do more good work when public medical relief shall be administered in such a manner as to accord with the true teachings of science and common sense, without doing violence to the homeliest instincts of thrift. The day is happily gone by, never to return, when the cultivation of science demanded the sacrifice of independence, often of life, from those who were devoted to its pursuit; and the time has come when the physical health of the community may be, and should be, protected without ever widening the boundaries of a *demoralising pauperism*.

But these wrongs and abuses must neither be allowed to provoke us to excessive resentment, nor to make us too eager for change at any price. Let me repeat the protest against too implicit reliance on systems as such. We must be practical above all things. In principle, I believe that the provident dispensary system has in it the essence of the remedy required; very much, if not all, depends upon how it is prepared and used. A too hasty and too wide application of the provident dispensary system in its crude form, or alloyed with the evils which have crept into it, would only lead the public and us into fresh difficulties. Experience of men and things, with good feeling which nothing must be allowed to sour, and patience which nothing must be allowed to tire, will not fail us.

AN ADDRESS

ON

OPHTHALMOLOGY IN ITS RELATION TO GENERAL MEDICINE.

The Annual Oration delivered before the Medical Society of London.

By J. HUGHLINGS JACKSON, M.D., F.R.C.P.,

Physician to the London Hospital, and to the Hospital for the Epileptic and Paralysed; etc.

V.

THE ophthalmoscope is valuable as revealing to us tissue-changes which are parts of, or local developments of, general morbid states. We may see tubercle in the choroid during acute tuberculosis. The first case of this kind recorded in this country was by Soelberg Wells. Such a discovery may be of very great help towards the very difficult diagnosis of tubercular meningitis as it occurs in the adult.

In some cases we may, so to speak, see syphilis ophthalmoscopically. Obviously, this is a most important matter.

Here is a point where we may easily and precisely study pathological changes during life; and, if opportunity offer, we can study the pathology of syphilis of a part of the nervous system by the microscope, at a known stage of it seen by the ophthalmoscope. Syphilitic retinitis is as much a syphilitic affection of the nervous system as a syphilitic neuroma is, and much more so than the common kinds of syphilitic hemiplegia are. It needs no evidence to show that the discovery of syphilitic chorio-retinitis is a fact of exceeding utilitarian value. It is a great practical point, that it is to be found sometimes in patients whose sight is not incapacitated thereby. An analogous statement was made of double optic neuritis, and the same may be said of the neuro-retinitis with Bright's disease. These pathological changes are often overlooked. I would make one general remark, that, in order to be quite certain whether the retina and optic nerve are diseased or not, we are obliged to look at them. It is to be observed that the ophthalmoscope, in some cases of congenital syphilis, is the only means of arriving at the conclusion that syphilis is the

cause of paralytic or other nervous symptoms. Here the evidence is of exceeding great value, and, when discovered early, may save patients to a great extent from the consequences of inherited taint.

Since Hutchinson's discovery that keratitis is a result, not of struma, as formerly supposed, but of inherited syphilis, there has followed the observation that disseminate choroiditis is also almost invariably of specific origin. The discovery in the eye of changes due to this disease is of great value, both in respect of the diagnosis of acquired and of inherited taint. Without asserting that they are never due to other causes, Hutchinson holds that their presence warrants the gravest suspicion. In establishing a diagnosis of inherited disease in a family, the patches of disorganisation left by choroiditis are often of the utmost value. They are often present without the patient being aware of any material defect of sight, and may be present in the eyes of one child whose physiognomy is good, but in whose brothers or sisters there may have been reason to suspect syphilis. In such cases, their value is almost as great as that of notched teeth, and may often set the matter at rest.

A very peculiar form of very chronic choroido-retinitis, occurring in the subjects of inherited syphilis and closely simulating retinitis pigmentosa, has engaged Mr. Hutchinson's attention of late years. Its interest for the physician is increased by the fact that it may perhaps be a parallel change to what occurs in some of the insidious and slowly progressive forms of spinal disease met with in the subjects of acquired syphilis. The subject has also been ably written on by Dr. Fitzgerald of Dublin. This form does not set in suddenly like disseminate choroiditis, but very insidiously, and it progresses, in spite of treatment, to almost entire blindness. It is distinguished from retinitis pigmentosa by its rarely being quite symmetrical, and by the fact that the choroid, as well as the retina, is disorganised.

But by far the most valuable ophthalmoscopic signs of tissue-change in constitutional disease are those occasionally occurring with Bright's disease. These need not be described; they are stated in every text-book. Everybody knows that, in chronic Bright's disease, the state of the arterial system is of extreme importance. We note the state of the arteries carefully, and the loudness and pitch of the second sound, as well as examine the urine for albumen. We ought to examine the eyes by the ophthalmoscope too, and that by routine; for there may be extreme changes without defect of sight. If we do, we shall occasionally find changes which are almost characteristic of that effect. It may be asserted that we have no need to diagnose Bright's disease by the ophthalmoscope. It is done, however, sometimes. It is not a very uncommon thing for an ophthalmic surgeon to be the first to detect the existence of renal disease, and that too in patients who have been long under medical care. In most cases, there is no dropsy; the changes are generally found in cases of the small kidney; occasionally they are seen in cases of large white kidney with dropsy. Besides, too, it is surely important, in so grave a constitutional affection as chronic Bright's disease, to see all that is to be seen. It is important to note that not only the so-called characteristic changes, but considerable hæmorrhages, may exist when sight remains good; for it leads us to infer that small cerebral hæmorrhages may not reveal themselves by any obvious symptoms. Again, if a patient who has Bright's disease has had a most transient and slight hemiplegia, but a little temporary thickness of speech or a slight attack of vertigo, we should reasonably infer that these symptoms were owing to clots in the brain, if we saw clots in the retina. There is no need in such cases to suppose that the renal disease causes these slight symptoms, and especially the local ones, by preventing proper depuration of the blood or in some other roundabout way. If a small clot in the retina can exist without any obvious defect of sight, the inference is, that a small clot may occur in the brain, although the symptoms it produces may be none or slight and transitory. We do find not unfrequently, in one case of Bright's disease, epistaxis, retinal hæmorrhages, and symptoms implying cerebral hæmorrhage, or demonstrably due to them *post mortem*. We see in the brain *post mortem* just the sort of change we saw during life in a part of the nervous system easily looked at. The discovery of these changes leads one to take a very grave view of the patient's case. However, it is to be noted that all changes may disappear. I have known a patient who had the appearances of chronic Bright's disease in an extreme degree, who had convulsions and coma, get well—that is, into the state of health he was before, the fundus becoming practically normal. I have known the retinal appearance to disappear many times.

It is, however, to be noted that these appearances are not absolutely characteristic of Bright's disease. In some cases of cerebral tumour, we find appearances somewhat like them, and occasionally quite like them; and, in some cases of renal disease, the discs simulate the common optic neuritis from intracranial tumour.

I would draw the attention both of ophthalmic surgeons and physicians to some minute ophthalmoscopic observations by Dr. Gowers in certain cases of Bright's disease. Dr. Gowers is so good an ophthalmoscopist, and, above all, knows so thoroughly well the varied healthy appearances of the normal fundus oculi, that I should accept these minute observations of his as being also precise and as exact as it is possible for such difficult observations to be.

Dr. Gowers finds that, in a large number of cases of Bright's disease in which there exists increased arterial tension, the retinal arteries may be seen to be distinctly smaller than natural. The diminution in size can sometimes be noticed as an absolute reduction; sometimes it can be best estimated by comparison with the veins—the size of which, on account of their darker colour, can be more easily estimated. In one instance recorded, a reduction in size of the arteries was observed to coincide with an increase in arterial tension. Small vessels may be sometimes noticed in conjunction with hypertrophy of the heart without albuminuria, and probably coincide with a prealbuminuric stage of Bright's disease. When albuminuric retinitis has set in, the contraction of the vessels is often not to be observed, perhaps on account of the disturbing influence of the local condition. It is, however, to be observed that in some cases of Bright's disease without retinal changes, and with high arterial tension, there is no reduction in size of the visible retinal arteries. This would seem to show that arteriole contraction is not the invariable, and therefore not the only, cause of increased tension.

Dr. Gowers lately showed at the Pathological Society a drawing of a fundus in which periarterial fibrosis was evident (it was extreme, around some of the arteries), and in which some small aneurisms could be seen on some of the vessels. This observation is of interest in relation to cerebral hæmorrhage. I would add that Liouville has found miliary aneurisms in the retina *post mortem*, like those found by Charcot, Bouchard, and Charlton Bastian in the brain.

In a recent number of the *Ophthalmic Hospital Reports* is a report by Mr. Hutchinson on a form of senile amaurosis, the first examples of which were recognised by Mr. Waren Tay. The ophthalmoscopic conditions are peculiar, and have not as yet been illustrated. They consist of numerous round white or glistening dots in the retina or choroid near to the yellow spot or optic disc. At first, these are very small, and only to be discovered in the erect image; but they increase, become confluent, and involve ultimately considerable areas. Their subjects are usually in fair health, free from evidence of kidney-disease, elderly (or, at any rate, past middle age), and almost always there is a history of vague disorders of the nervous system, slight transitory paralysis, etc. The conditions were in one instance found in several members of one family.

I conclude with mention of research by another physician whose ophthalmological observations are thoroughly trustworthy. Dr. Stephen Mackenzie* has drawn attention to spontaneous visible pulsation of the retinal vessels in connection with aortic regurgitation. He pointed out that, though described with much completeness by Dr. Otto Becker,† and referred to by some ophthalmic writers, the condition did not appear to have met with general attention at the hands either of oculists or physicians. He gave eight cases, with detailed observations as to the condition of the heart and vascular system, all showing pulsation in the retinal arteries, or in both the arteries and veins. He pointed out that the phenomenon was generally most marked where the radial pulse was most typical of aortic regurgitation, and where the left ventricle was markedly hypertrophied. Secondary dilatation of the mitral orifice did not necessarily preclude it. He showed that where there was a doubt as to the rhythm of a murmur, or where pulmonary sounds interfered with auscultation of the heart-sounds, the ophthalmoscope might have diagnostic value, and gave a case in illustration of this point.

Dr. Stephen Mackenzie has also (*Medical Times and Gazette*, March 3rd and 10th) described retinal hæmorrhages in connection with purpura. Rue had (*Union Méd.*, 1870, No. 48) previously described hæmorrhagic retinitis in connection with purpura. Dr. Wickham Legg (*St. Bartholomew's Hospital Reports*, 1875, p. 64) has recorded retinal hæmorrhage observed by Mr. Vernon in a case of purpura.

* *Medical Times and Gazette*, May 1st, 1875.

† Graefe's *Archiv*, 18 Band, Abth. 1, p. 206. Dr. Becker alludes to the previous description by Quincke (*Berl. Klin. Wochenschr.*, 1868, No. 34, and 1870, No. 21). Dr. Fitzgerald (*BRITISH MEDICAL JOURNAL*, December 23rd, 1871) described one case where pulsation was visible in the arteria centralis retinae.

TESTIMONIAL TO MR. H. M. JAY.—Mr. Henry M. Jay, M.B., has been presented with a handsome timepiece by the officers of the Chippenham Union Workhouse, on the occasion of his resigning the post of medical officer to that institution.