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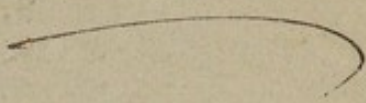
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MEDICAL REPORT
OF THE
EDINBURGH EYE INFIRMARY,
No. 12, QUEEN STREET,
FOR 1850.

BY
ROBERT HAMILTON, M.D., F.R.S.E., F.R.C.S.,
AND
BENJAMIN BELL, Esq., F.R.C.S.

[FROM THE MONTHLY JOURNAL OF MEDICAL SCIENCE, FOR APRIL 1851.]

The experience of each passing day must convince every intelligent practitioner that the healing art, like most others, is a progressive one. This observation, clear beyond dispute, concerning the sciences upon which medicine and surgery are based, and especially in relation to the knowledge which the microscope is revealing, is applicable to almost every branch of professional pursuit, so that the medical man who would neglect this important truth, and disregard these rapidly accumulating discoveries, is speedily arrested, like a stranded bark, whilst others, pursuing a different course, soon leave him far behind.

No department of our science presents perhaps more striking and palpable demonstrations of this fact than ophthalmic surgery; and the slight review we now proceed to give of the contents of the accompanying table¹ will afford many illustrations thereof. Much has been done within the last few years towards the elucidation of the delicate structures of the different parts of the eye, investigations which must be familiar to many of our readers, and among which the recent researches of Professors Todd and Bowman are perhaps the most important.²

¹ For which we are indebted to our excellent clerk, Mr Robertson.

² See *Physiological Anatomy and Physiology of Man*. By Dr Todd and William Bowman, F.R.S. Also, *Lectures on the Parts Concerned in the Operations of the Eye, &c.* By William Bowman, London. 1849.

<i>Diseases of Patients.</i>		<i>Diseases of Patients.</i>	
Tumours of eyelids, . . .	12	Corneitis, phlyctenular, . . .	5
Abscess of do.	5	Injuries of iris and eyeball . . .	5
Hordeolum,	2	Iritis, simple,	4
Ophthalmia tarsi,	58	Do. scrofulous,	2
Ectropium,	1	Do. rheumatic,	1
Entropium,	3	Do. syphilitic,	2
Trichiasis,	4	Ophthalmitis,	1
Ptosis from affection of third nerve, . . .	3	Granular conjunctiva,	3
Epiphora,	5	Abscess of cornea,	1
Inflammation of lachrymal sac,	13	Opacities of do.	16
Fistula of sac,	3	Ulcers of do.	5
Shrunk papillæ and contracted puncta, . . .	2	Prolapsus iridis,	1
Strabismus,	9	Staphyloma,	5
Oscillation of eyeball,	2	Synechiæ, opacities of capsule, &c., . . .	9
Injuries of conjunctiva,	14	Conical cornea,	1
Hypertrophy, &c., of do.	3	Cataract, congenital,	2
Inflammation of do., catarrhal,	5	Do. idiopathic,	12
Do. neonatorum,	5	Do. traumatic,	10
Do. gonorrhœal,	3	Myopia,	1
Do. puro-mucous,	9	Presbyopia,	2
Do. pustular,	15	Asthenopia,	8
Do. strumous,	23	Day blindness,	1
Do. acute, {	119	Night do.	2
Do. chronic, {		Amaurotic affections,	42
Do. rheumatic,	10	Cases unclassified,	20
Injuries of cornea,	19		
Corneitis,	16	Total,	525

The prefixed table brings under review more than fifty of the different diseases to which the eye is liable, in numbers varying from one or two only, to several scores; and were we to bestow upon each of the subjects two or three sentences only, our Report would become unreasonably long; hence we must make but a scanty selection, and must strictly confine ourselves within very moderate, not to say narrow, limits.

THE CORNEA.—The large proportional number of cases of blindness which arise from the diseases of the cornea, confer on the disorders of this membrane an importance which cannot readily be overrated. The researches of the gentlemen just named, and of others, seem to have established that *the horizontal layers*, of which the cornea is composed, amount in number to about sixty. Of these two are distinguished by being especially *elastic* in their structure, the one on the *anterior* portion of the cornea proper, upon which again is immediately superimposed, and quite superficial, the conjunctival epithelium; and the other, *the posterior elastic lamina*, with which we have been long familiar as the membrane of Decemet, and which, like the anterior one, is also lined, of course posteriorly, with an epithelial pavement. These peculiar laminae are sheets of homogeneous membrane, very much resembling the capsule of the lens, being perfectly transparent and glossy, firm, resisting, uniform, and without appearance of internal structure.

AFFECTIONS OF THE CORNEA.—The number of the affections of the cornea enumerated in our table amounts to seventy, which constitutes nearly one-eighth part of all the cases. Regarding them, we shall make a few brief remarks upon *The Lodgement of Foreign Bodies in the Membrane*, on *the Hernia Corneæ*, on *Opacities*, *Staphyloma Corneæ*, and *Conical Cornea*.

Puncture of the Cornea.—A preliminary hint, however, suggests itself respecting *the surgical puncture of the cornea*. From the preceding remarks concerning the minute structure of the membrane, it will have been perceived that

nothing was said of blood-vessels: and it is a fact that, in its normal condition, such vessels are entirely wanting. The membrane belongs purely to the capillary system. Hence it is that within certain, and not very confined, limits, this tissue is exceedingly tolerant of injury, as is known to every surgeon who is called frequently to operate upon it; and hence the perfect safety with which the membrane may be punctured for the purpose of evacuating the aqueous humour,—an expedient which will be found not only free from risk in itself, but which is attended with most marked benefit in not a few of the most painful and hazardous disorders of the organ; so proving a remedy which we believe is too much overlooked and too little practised. In illustration, we may mention, that within these few weeks, there was a patient in the Infirmary, a man past the prime of life, who had frequently suffered from severe rheumatic attacks, and who, after much recent exposure and fatigue, was affected with acute rheumatic ophthalmia of the right eye, with intense pain, and greatly impaired vision. Although the usual remedies were vigorously applied, yet the symptoms were persistent, and the danger to the eye great. Under these circumstances, we punctured the cornea, inducing marked relief of suffering and subsidence of the disease. The symptoms, however, after a few days returned; the prospect was again threatening, and again relief was obtained by means of the puncture. Thus this measure proved twice the turning point in this troublesome disorder; and the patient left the institution entirely free from complaint.

Foreign Bodies imbedded in the Cornea.—It is interesting to perceive how a correct knowledge of the minute structure of the parts now under review throws light upon the most common perhaps of all the injuries of the eye, and which among our working population—blacksmiths, masons, engineers, &c., &c.,—so frequently presents itself to notice.

It has often and long been observed as remarkable, not to say unaccountable, that injuries from these minute foreign bodies,—the *stahlfunken* of the Germans, many of them known as “*fires*” in this country,—are never met with in the sclerotica, but in the cornea only. The cause of this is now clear; inasmuch as the elastic tissues above alluded to, are peculiar to the cornea; and it is the anterior and stronger of these which forms the *nidus*,—the almost horny seat in which the foreign bodies get ensconced, where they cause so much irritation, and whence, by the powers of nature, they are with so much difficulty dislodged. Art, it may be said, has preceded science in the proper treatment of these cases. The touching and tampering with the epithelial covering ever proves exquisitely painful; but this membrane when extensively removed, is not less wonderfully than speedily restored. The best plan to pursue is to interfere as little as possible with the soft superficial membrane, to plunge the point of the needle at once beneath the impacted body, and so to effect its immediate excavation.

Hernia Corneæ, is an affection which finds an explanation at once most natural and satisfactory in the accurate knowledge of the minute anatomy. How common is ulceration of the cornea deep and penetrating? By and by, it appears complete, and the aqueous humour seems on the eve of being evacuated, but that the apparent breach of the cornea is plugged up by a transparent vesicle, which, sometimes for days, closes the opening, arrests the progress of the disease, and the threatened escape of the aqueous humour. This vesicle was wont to be regarded as the serous membrane, the delicate lining of the aqueous humour; whereas it is firm and resisting, and is in fact the posterior *elastic lamella*, which is not easily excited to morbid action, and long withstands all tendency to inflammation and its hurtful consequences. It has sometimes been recommended to touch this plug with the lunar caustic, under the idea that inflammation might be thereby excited, and effusion of coagulable lymph produced; whereas the preservation of this membrane constitutes the safety of the aqueous humour and the iris, so that everything should be done to maintain its integrity. When at length, however, the elastic membrane fails, and *hernia iridis* and *myocephalon* occur, a different treatment must be resorted to, and the caustic may be applied.

Specks and Opacities of the Cornea.—A knowledge of the minute structure

above adverted to, is most useful in guiding our prognosis, as well as sometimes regulating our treatment, in those numerous and vexatious cases so well known under the general appellation of opacities of the cornea. Regarding these cases, the experience of the past year has strongly impressed upon our notice the decided improvement which often takes place upon specks on the cornea, when treated with gently stimulating applications, such as the solution of nitrate of silver. Under the continued use of this agent, and other gentle excitants, many of those depositions which, we feared, had seriously compromised distinct vision for life, have slowly, but entirely disappeared;—a result attributable, undoubtedly, mainly to nature's work, but probably somewhat assisted by the persevering use of the resources of art. The rationale of the process, and of the amount of its salutary agency, as well explained by Mr Bowman, seem to be, that the proper laminated tissue, above adverted to, is capable of enlarging its vascular resources for its support under disease, and for the subsequent removal of diseased products to such an extent, that, if it has itself escaped disorganisation, it is able, under favourable circumstances, completely to resume its transparency.

Opacities from Acetas Plumbi.—In this connection we may advert to an opacity, which perhaps, however, would be more accurately characterised as a deposit on the abraded cornea, produced by the ignorant and improper use of the *acetas plumbi*. We have witnessed more than one case of this sort within the year, and one of a highly aggravated character, where the deposit was so extensive and prominent, that it proved a severe source of irritation to the unfortunate sufferer, who, under its use, had been rendered quite blind. Having become impatient, under a painful and somewhat protracted attack of ophthalmia, he had resorted to one of those quacks, who undertake to cure all sorts of disordered eyes, and who had supplied him with an infallible ointment, which he largely distributes. This the patient had used for a considerable time before he applied to us. Strongly suspecting the hurtful nature of it, we desired the sufferer to bring the ointment which he had been using, and which we handed over to Dr Douglas Maclagan, who had the kindness to analyse it, and with the following extraordinary result:—"Mr. P.'s ointment," writes Dr Maclagan, "is made up of an immense quantity of acetate of lead, with a large proportion of red precipitate, the whole being coloured with *alkanet*, or some other vegetable matter. The sugar of lead is in crystalline particles, large enough to destroy any cornea by mechanical irritation, leaving the red oxide of mercury out of view." The white incrustation was unmistakeable; and we once and again succeeded in removing large scales from the surface, with marked relief. It is no wonder that, when such gross practice is pursued, with such injurious effects, a strong prejudice has arisen in the minds of many practitioners against the use of the salts of lead. But on this point we would observe, that it is the abuse and not the use which ought to be reprobated,—a remark the more necessary to make, since our frequent experience very strikingly vindicates the high encomium which was paid by the late Mr Tyrrell to the efficiency of the diacetate of this metal in removing, with other remedies, the troublesome granulations of the lining membrane of the palpebræ, which in so many instances affect the whole corneal conjunctivæ, greatly irritating the organ, and obscuring vision. The judicious use of this salt, as recommended by Mr Tyrrell, has often been most striking and satisfactory.

Staphyloma.—We are not aware that these microscopic discoveries have thrown any additional light upon the subjects of staphyloma and conical cornea. For the former of these complaints we have had two operations: the one case being congenital, and spherical; the other conical, the result of previous inflammation. The former occurred in an infant, eighteen months old: it was put under chloroform, and lay under the painful operation more quiet than the shorn lamb.

Conical Cornea is not a very common disorder. In the Royal London Ophthalmic Institution, during the last ten years, it has not occurred in one case in a thousand, the numbers being 1 in 1088. As the case noted in our table

was interesting from its complexity, and from the beneficial effects of treatment, we shall take the liberty of giving it in detail.

CASE.—The patient was a young female, eighteen years of age. Both eyes were affected, and presented the usual features of the disease, in a decided manner; the sparkling appearance, when viewed opposite the light, the conical crystal-like projection in profile. The complaint was farthest advanced in the left eye, and in the right, was combined with a completely-formed white cataract: in neither eye was there any nebulous opacity of the apex of the cornea. The vision of the right eye, where the cataract existed, had been extremely imperfect for about four years, and at the date of her application, barely enabled her to distinguish light from darkness. With her left eye she could discriminate objects held at the distance of two or three inches; but she was incapable of distinguishing one person from another, and needed to be led about, except in localities with which she was familiar. The light of a candle appeared to her to sparkle, and to be of various colours. In connection with this symptom, it may be remarked, that no inequalities were observable on the surface of the cornea.

Her general health seeming to admit of considerable improvement, it was deemed advisable to make this a primary object before attempting any surgical procedure for removing the cataract. She improved much under a course of alterative and tonic treatment, and then the operation of *keratonyxis* was performed, with Jacob's needle, in the usual way. The result has been so satisfactory that she can now read even small print without the use of a glass, and has perfect confidence in going any where unattended. Encouraged by this success, and remembering Sir W. Adam's practice in a similar case, we have since had recourse to the same measure in the other eye; and although, as was to be expected, a temporary cataract has been produced, absorption of the lens is now advancing rapidly, and there is reason to hope that eventually the result will be almost equally favourable. We say *almost*, because the conical projection of this cornea being more decided, the benefit following absorption of the lens will probably be less considerable.

THE OPHTHALMIÆ.—Upon the ophthalmia generally we must abstain from enlarging.

Gonorrhœal Ophthalmia.—Three cases of gonorrhœal ophthalmia have come under treatment, all of them marked with the urgent and violent character so striking in this disorder. In all of them one eye only was implicated. We attach very considerable importance, in this class of cases, to the early use of free radiating incisions of the sclerotic portion of the conjunctiva, which, it is alleged, when in a state of intense chemosis, strangulates the vessels going to the cornea, and superinduces thereby its sudden sloughing and mortification. Be that as it may, this practice was had recourse to in our cases. In one, the cornea got off scathless; in another, it quite recovered, after considerable ulceration of its superior circumference; in the third, occurring in a young man in the height of vital power, but who did not come into the infirmary for several days after his attack, when sloughing had already commenced, the cornea was seriously compromised, and the vision nearly lost.

Aquo-capsulitis.—The microscopic researches above referred to, promise to throw an amount of light upon the disease hitherto known as aquo-capsulitis, which probably will require a modification of our views respecting the pathology of the disorder. It is the doctrine of some of our British oculists, that the aqueous humour is contained in a proper serous membrane, by which it is secreted and absorbed. The microscope, however, it appears, ignores this doctrine; and confines what has hitherto been considered a serous membrane to the posterior part of the cornea alone. These researches in this matter corroborate the views which have been long held on this point by some eminent German authorities. The disease known under the name is an interesting and important one. An insidious and chronic inflammation appears to be set up upon the posterior membrane of the cornea, composed of the epithelial cells. This occurs usually in individuals in a weak state of constitution, and gradually in-

duces obscurity of vision, with slight uneasiness, rather than pain. Upon first looking at the eye, something like an obscure opacity of the cornea is perceived, which, on minute examination, appears to have its seat in the deeper layers. It is like a general haze or cloudiness, which, however, when examined with a lens, resolves itself into what appears to be the deposition of numerous minute points, as if some darkish-coloured powder had been dusted on the inner surface of the membrane. Many are the cases we witness in which what is here described is too clear to be mistaken. That the disease, however, never proceeds further, and affects the posterior chamber, we are not prepared to aver. On the contrary, we are still inclined to the belief that there is, at all events, a closely allied disease, which we have often witnessed, and which occasionally implicates in a serious manner both the iris and crystalline capsule. In these cases, the iris becomes changed in colour and fringed with lymph, and sometimes adherent at its margin, while in the middle it bulges forward, as if the posterior chamber was morbidly distended with fluid. An account of this disease was given, many years ago, to this Society, by our late able colleague Dr Watson Wemyss, under the title of Chronic Inflammation of the Iris and Membrane of the Aqueous Humour. Is it, then, that we must recognise two diseases affecting these parts rather than one? There can be no question that the anatomical doctrine must greatly affect our opinions regarding the sympathies and diseases of the parts, and hence the importance of the inquiry in a practical point of view. Meanwhile we remark, that the efficacy of improving the general tone of health, and of the gentle operation of mercury, is sometimes, in the former class of cases here alluded to, not less striking than in syphilitic iritis.

ARTIFICIAL PUPIL.—We have only had one case of operation for artificial pupil during the year; the success has been gratifying; and we supply a slight sketch of it.

W. N., aged 18, had violent inflammation in both eyes, about ten years ago, which deprived him of all useful vision. In the right eye there was complete *synechia anterior*, with a large central opacity of the cornea; in the left, *synechia posterior*, and an opaque capsule, from deposition of lymph, but the cornea is transparent. Both eyes were of the natural shape and firmness. With the right eye he could barely distinguish light from darkness; with the left the sensibility to light was greater, but no objects were discernible. The left eye seemed to be the more promising for operative interference; and accordingly, on two occasions, the procedure, to which Mr Tyrrell gave the name of "Drilling," was had recourse to, with the view of partially detaching the iris from the opaque capsule, and also of promoting solution of the lens. Small advantage followed these attempts, and as it appeared probable, from the size of the anterior chamber, that little of the lens remained, we determined on performing what is commonly called Cheselden's operation for artificial pupil. The iris accordingly was divided in the usual way, and a large triangular pupil was the result. The patient now enjoys a considerable amount of vision, being able to discern persons on the street, and the lamp-posts; also the dogs running about, and the larger signs above the shop-doors, &c. Had the nervous apparatus not been out of use for so long a period, the recovery, which, however, is still progressing, might have been more striking and complete.

CATARACT.—The number of the cases of cataract which have presented themselves during the year has been twenty-four; the precise number enumerated in the last Report of the Glasgow Eye Infirmary we have seen, dated in 1850. Of our number, two were congenital, ten traumatic, and twelve idiopathic; and it appears that only eight or ten of these have been the subjects of operation. With respect to these operations generally, we have to remark, that whilst some were performed in the Infirmary, others were undertaken in the patients' dwellings, so that our statistics regarding them are not so minute and accurate as we could have wished.

The following are the only remarks which our limited space permits:—Concerning the operation of *Extraction*, continued experience only confirms the sentiment, which is perhaps more felt than acted upon,—the dogma, namely, which

the German school has been so forward and urgent in advocating, That perfect integrity of the organ itself, and of the whole system, are essential pre-requisites and elements to the operation of extraction. So delicate is the organ, and so numerous the risks, that unless the above conditions exist, this method of relief should not be attempted. All this, *ex cathedra*, is very well; but complications and qualifying circumstances present themselves, which sometimes induce, if they do not sanction, an infraction of the rule. Thus the following case occurred in an individual aged 63, in good general health. Forty years previously, when in the army, he had suffered severely in both eyes from Egyptian ophthalmia, on account of which he was discharged. The right eye had been rendered useless from opacity of the cornea, and general disorganization. The left relatively escaped; but both, subsequently, were liable to troublesome inflammatory attacks. Though the vision was far from perfect in the left eye, yet it was long sufficient to enable the patient to walk about with considerable facility. About four years however, previous to the date of his application, the dimness of this eye began to increase from the growth of cataract, and gradually the vision, for all practical purposes, became useless. He now found himself in that cheerless state of dependence and distress, so common under the circumstances, and urgently besought that any operation which held out even the slightest prospect of relief might be undertaken.

What, under the circumstances, was the office of good surgery, and of humanity? *Couching* of the cataract might readily have been effected, but with a high degree of probability, amounting almost to certainty, that the displaced and foreign body would act as a severe and endless source of annoyance, greatly hazarding the recovery, and irritating the parts in all time coming. Remarks of similar bearing apply to the operation by *Solution*, especially in such a case, where the cataract appeared to be hard, and the eye was far from perfect. The objection applied nearly as strongly to the operation of *Extraction*; so that the question occurred,—Was all interference to be declined? This, perhaps, would have been the wisest, as the safest, decision. The patient, however, was urgent; his existing vision was useless; the matured cataract undoubtedly acted as a screen, which shut out the light of day, which, if removed, *might* restore vision; the general health withal was good, so that the temptation was great to endeavour to remove the obstructing cause at once, and for ever.

The operation proved safe to the organ, though ineffectual as a cure. True, as was anticipated, the incision was scarcely completed ere the lens appeared, and with it a portion of the somewhat disorganized vitreous humour. This, however, was to no prejudicial amount; and the cornea healed somewhat slowly, but satisfactorily. Now, the patient flattered himself and friends that his sight was restored; and, again, he complained of blindness still. Upon the whole, this case, though satisfactory as to the operation, was ineffectual—from the state of the retina we believe—as to the restoration of vision.

Couching.—Our estimate of couching apparently concurs with that of the officers of the principal institutions throughout the country. During the last ten years, for example, cases of depression, in the Royal London Ophthalmic Hospital, to the other two operations, have been in the proportion of 26 to 451 extractions, and to 396 divisions,—in other words, of one couching in every 32 operations; and in Glasgow, in the year above specified, it was in the ratio of one couching in 18 operations.

Division.—And as couching is at a discount, so *division* or *solution* is in favour. In the Glasgow Eye Infirmary report, above referred to, there were only two cases of depression *versus* 32 of division. Science and experience seem alike to agree in recommending this treatment to general approval. The minute anatomy of the cornea, as well as daily observation, demonstrate how tolerant this membrane is of such injury as is inflicted in *keratonyxis*; and of the many times we have had recourse to it, we have found bad results in none. The instrument, moreover, may be introduced from the sclerotica, as from the cornea. When from the former, the common curved needle or the bistoury-pointed

one, sharp on the concave edge, originally introduced by Ritterich, we believe, do admirably. When, on the other hand, puncture of the cornea is preferred, the straight round needle which used to be employed by Mr Tyrrell, and Dr Jacob's curved one, are well adapted for the end in view. These operations may require time ere the object is secured,—they may be slow, but they are safe. Mr Tyrrell mentioned in his practical work, that upon an average, he had to repeat the operation seven or eight times, at the interval of from three to five weeks, before the lens was removed; and he has informed us that he had operated not less than fourteen times in one and the same case. These statements, from the lips of one whose success was inferior to that of none of his predecessors or contemporaries, constitute the strongest possible argument for care and caution in these delicate operations.

ASTHENOPIA.—Is *asthenopia*, for our acquaintance with which we are indebted to Dr Mackenzie, to remain so obscure as to its nature, and so unsatisfactory as to its treatment, as it has hitherto done? The microscopic researches to which we have so often referred, respond that it is not. What we have been so long familiar with as the *ciliary circle*, Mr Bowman teaches should be regarded as the *ciliary muscle*. He states upon this point, as the results of his researches, that the muscle arises at the junction of the cornea and sclerotica, and especially in connection with the posterior elastic lamina, passes backwards to the anterior regions of ciliary processes, clothes the outer surface of the choroid for about one-eighth of an inch, so far as opposite to the *ora serrata*, near to which it is inserted. It is thickest in front, at its anterior edge. Mr Bowman delineates the muscle, confessing, withal, that from its extreme delicacy, it looks soft and almost gelatinous; but with high microscopic powers, the fibrous texture is distinct, and may be seen loaded with roundish nuclei, as in the best marked examples of *unstriped* muscle. The use of this muscle, its nature admitted, would not be doubtful. When in action, it would advance the lens, by drawing the ciliary processes towards the line of junction of the sclerotica and cornea, and also, perhaps, at the same time, might exercise compression on the sides of the vitreous humour. And such a movement of the eye would tend to adjust the optical mechanism of the vision to near objects.

We have witnessed cases of this disorder in some of very tender years; thus indicating that it might be congenital. We have also frequently seen it originate in adults, in those more especially who had strained their visual powers either by excess or by insufficiency of light. The principles upon which the treatment should be conducted, have not hitherto been very clearly elucidated; and the success of the means of cure recommended have been far from encouraging. Were Mr Bowman's views of the anatomy of the parts found to be correct, they would suggest new principles of treatment which will readily occur to every intelligent practitioner.

AMAUROTIC AFFECTIONS.—Our amaurotic cases are stated in the table to have amounted to the number of 42. Upon this highly important and interesting class of disorders, we must not now enlarge; and hence, with the exception of a few general remarks, which will casually occur at the conclusion of the report, we shall do little more than give a slight sketch of two cases, one of the rare disorder of day-blindness, and the other of the ordinary amaurosis, which will illustrate the general principles upon which our treatment is conducted:—

Case of Nyctalopia.—It is certainly to be regretted that the words *nyctalopia* and *hemeralopia* are generally used in so equivocal a manner, and this on different etymological principles, each term being employed with nearly equal frequency to designate conditions which are the very opposite of each other. This ought never to have been; for Hippocrates himself left an express definition which should always have possessed an undisputed and imprescriptible right. So is it expressly stated by Sauvages,—“*Qui de die nihil cernunt, sed vespere et noctu satis acute vident, ait Hippocrates, illi nyctalopes sunt.*” This criticism is not introduced for any nosological purpose; but simply to show that a disease whose most remarkable symptom is accurately described by such authorities, is one

whose existence cannot well be regarded as apocryphal; whilst, at the same time, it is scarcely less true, that if not of doubtful, it must yet be of very rare occurrence; since most modern authors discourse regarding it with very great hesitation; and such men as Mr Lawrence can affirm, "that they have never seen it,"¹ and Mr Wharton Jones, "that it does not certainly appear that there is any such disease."² Both diseases, indeed, are usually enumerated in all ophthalmological works, but the description of day-blindness in nearly all of them resolves itself into a description of an infirmity which is merely the result, and consequence, of some previous disease. Thus, it is stated to arise from central opacity of the cornea, from lenticular cataract, from extreme strumous ophthalmia, from photophobia, from abnormal enlargement and contraction of the pupil, &c., &c.; in other words, it is generally described, not as an original and specific complaint of the retina and nervous apparatus, but as a mere sequela and consequence of some preceding disorder. And, even when the opposite view is taken, when the existence of the disease is conceded, still the information respecting the whole phenomena, the causes and symptoms, the history and cure, it must be allowed, are so scanty, vague, and indefinite, that much remains for the satisfactory establishment, not to say the elucidation, of the disorder.

W. J., æt. 58, a hand-loom weaver, residing at Auchtermuchty, Fifeshire, presented himself at the Eye Infirmary, being recommended to our attention by our intelligent friend, Dr James Keith. His right eye had been destroyed by small-pox in early childhood. The vision of the left eye had been invariably good, until the 21st of February, 1850, when, without pain or uneasiness of any kind, it suddenly left him. But although totally blind during the day, he could see nearly as well as formerly by moon or star-light. He had been blistered behind the ear without benefit. On applying for advice at the Eye Infirmary, on the 5th of March, he was recommended to keep the blister open, to apply two leeches twice a week to the under eye-lid, and to take a blue pill, with rhubarb, every second night. These prescriptions were punctually followed for about eight or nine weeks, with a slow but steady improvement, until he could read a few lines at a time, in a large-printed Bible. At this time, his bodily health appeared to give way, and the aforesaid remedies were discontinued; a milk diet and bitter infusions being substituted for them. Under this treatment, the vision continued gradually to improve; but he was much annoyed with the sensation of an object flitting before him, on every attempt to use the eye. At first it was of variegated colours, latterly almost black. A sojourn of several weeks at the sea-side, where he had regular bathing, improved both his general health and his eye-sight, and the ocular spectra or muscæ, gradually disappeared during the summer and autumn. In October, he was able to resume his occupation, and has since then continued at the loom without interruption, his vision being now as strong and perfect as ever.

Our patient residing at a distance from Edinburgh, and finding it inconvenient frequently to resort to town, his treatment was to a great extent carried on by correspondence, through the kind attention of Mr John Renton, Free Church minister of the place, with whom we have conversed upon the case, and who, from first to last, has taken a very lively and intelligent interest in it. Feeling solicitous that no doubt or uncertainty should exist regarding it, we thought it advisable, in drawing up our report, afresh to apply to Mr Renton, who has sent us the following specific details:—

"W. J. could see no object *by day*, but from the very first of his illness, could see by *night*. He found no deficiency of sight by night, which was the same in all respects as before his illness. For example, he could not have walked on the road *by day*, without stumbling, and he required a guide. *At night*, he could do

¹ Diseases of the Eye. 2d edition. P. 587.

² Manual of Ophthal. Med. &c., p. 256.

so quite well. On the night of his return from Edinburgh last March, it being quite dark (about nine P.M.), he found his way home to his own house, from the coach-office, ALONE, which during the day he could not have done.

"When standing at the door of his cottage at night, he could see distinctly the opposite wall (there are no houses directly opposite his), which divides the road from the fields; he could distinguish the top of it, and if asked, could have given a good idea of its height. All this he could not have done by day.

"He could see by night, when looking westwards, a large house at about 200 yards distance, while during the day, he could not see half the distance of the length of himself.

"At night, looking at the sky, he could quite well discern the stars and the moon, and the clouds passing over the moon. During the day he could see nothing; a cloudy and a clear sky being alike invisible.

"In a moon-light night he could distinguish animals passing his door,—for example, a cow from a horse. By day, he could not possibly have done so.

"In conclusion, his power of vision by night continued during all his illness, and was not at all affected by the recovery of his sight by day."

Amaurosis.—The following amaurotic case, which apparently belongs to that variety, whose cause is referable to congestion of the optic nervous apparatus, we select chiefly because it happens to be confined within narrow limits:—

J. M., æt. 49, a coach-hirer, of dark complexion and spare habit, and by his own confession rather intemperate, had been troubled for a month with an increasing dimness and imperfection of sight in both his eyes. He attributed his disease chiefly to sleeping for several weeks in a damp room. He was unable to distinguish a man from a woman across the street, to read the signboards of the shops, or the large capitals on our admission cards. There was no vascularity of either eye; but the pupils were sluggish, and their expression vacant. His pulse was deficient in power, and his tongue furred. The case seemed decidedly unpromising. The treatment was at first directed mainly to his constitutional health. The bowels were cleared out with moderate doses of croton oil, and a few ounces of blood were taken from the temple by cupping.¹ He was then directed to take cod-liver oil, and a blue pill at bed-time, until the gums should be slightly affected. He commenced this course on the 7th of September, and on the 19th, vision was so much improved, that he could read the large print upon our cards without difficulty. The mercury was steadily continued, and on the 21st of November, two months afterwards, it is noted,—“vision still improving; he can read the smallest print easily.” He was never confined during the treatment; and when last seen, in the beginning of January, all amaurotic symptoms had disappeared.

We here take occasion to remark, that in employing the atropa belladonna as a mean of exploring the deeper-seated parts of the eye, the solution of the atropine will be found a much more agreeable as well as powerful agent than the extract of the juice of the belladonna itself. So energetic are its powers, that in some instances circumspection is required, as it not only induces great mydriasis, but sometimes, and especially in amaurotic cases, so long maintains the increased dimness of vision, that the patient is both alarmed and discouraged, whilst the medicine and the practice are apt to be stigmatised and condemned. Such panics, however groundless, it is well to avoid.

AFFECTIONS OF THE APPENDAGES OF THE EYE.—We have little room left for remarks upon cases or diseases affecting the appendages of the eye. they must be confined to a few sentences.

Affections of the Third Pair of Nerves.—These cases have been enumerated in the table under the name of Ptoxis, this perhaps being the most prominent symptom of the complaint. As during the past year, three cases have presented

¹ We feel much obliged to Mr Cafe for his daily and assiduous services to the Institution.

themselves, the affection cannot be regarded as a very rare one; and a fourth case has since appeared, evidently occasioned by the *Bacchanalia* of the new-year's-day festivities. In one of our cases, the disease was double, by which we mean, that it occurred in both eyes, though more severely in the one than in the other. In this instance, though the vision was very imperfect, and the iris was not strikingly dilated, the power was decidedly improved when exercised through a small hole in a card. Whenever the palsied eyelid was raised, giddiness to a distressing extent, as usually happens, was superinduced. Dr Marshall Hall, we should think, is quite correct in stating that this affection is an instance of cerebral paralysis; nor is this view at all contradicted by what is stated by Mr Wharton Jones, that the disease is sometimes produced by exposure to cold and damp, like that *blight* which so frequently occurs in the *portio dura* of the seventh pair, inducing the paralysis of the numerous muscles it supplies. We have not happened to see any instance of the ophthalmic disorder proceeding from this cause. Our cases have been all obstinate, and success in the treatment, when attainable, will be the result of searching and enlightened views of the cause of the disorder,—at once general, as it respects the condition of the whole frame, and accurate, as it regards its true and peculiar exciting cause.

Strabismus.—The number of our cases of squinting, amounted to nine; and it was but a small proportion of these that required, or admitted, of operation. One case presented itself of the *Strabismus sursumvergens*, not a very common disorder. It occurred in a youth aged sixteen years, who had been annoyed with it from infancy. In the morning, after being refreshed with sleep, he was comparatively but little incommoded; but as the day advanced, and the exhaustion of fatigue supervened, it became exceedingly vexatious. We offered to attempt its removal by operation, to which the patient most willingly consented. His parents, however, refused their concurrence, and prohibited him from submitting. In the cases in which we have operated, the results have been such as to vindicate the high character and complete success of the operation.

CONCLUSION.—But we must conclude. Whilst we had planned at the commencement of our report, to illustrate the importance of every practitioner keeping abreast of the rapid advances making in anatomy, physiology, and the other correlative sciences, we had moreover, intended to include what we consider a not less important topic, namely, the regarding the local diseases of the eye, not as isolated, but also, and chiefly, as in connection with the whole frame, whenever and howsoever morbidly affected. This we would venture to affirm, in many surgical and medical cases occurring in ophthalmological disorders, is the true secret of successful practice. The principle is nothing more than what Mr Abernethy so ingeniously demonstrated nearly half a century ago; and what we believe particularly distinguishes, at the present time, many members of the profession who are successfully introducing improvements, and establishing for themselves an honourable and exalted fame. We believe that ophthalmic practice might afford a most striking demonstration of this important truth; and we regret that we may not now enlarge upon the theme. There are few of the disorders which have been above adverted to,—the most important and the most insignificant,—whether asthenopy or amaurosis on the one hand, or the slighter, as ophthalmia tarsi, or mucocele of the sac on the other, in which it is not most important for the practitioner to direct attention not only as much, but even more, to the constitutional disorder than to the local disease. The truth of this in some complaints is so obvious, that it cannot escape the observation of the most careless attendant. Thus is it in *arthritic ophthalmia*, perhaps the most troublesome of all its forms; and in the rheumatic, scarcely less vexatious. We were lately called to a patient labouring under rheumatic ophthalmia in both eyes, complicated with constitutional venereal disorder, whose ocular pain was so severe, that for three nights, as he expressed it, he had not had a wink of sleep. He could scarcely discern a single object, his pulse beat 120 in the minute, and at the time he had no rheumatism in any other part of the body. The specific appearances, however, of the ophthalmia were most marked, and the treatment indi-

cated, was precisely that required for articular rheumatism or rheumatic fever. This was vigorously adopted, and with speedy and most marked relief. The principle we are now contending for has long been familiar to every one, as it regards strumous ophthalmia; in many varieties of which it would scarcely be too much to affirm, that nine-tenths of the treatments must consist of constitutional remedies—correcting the diathesis—and the remaining tenth of local: And the gist of our thesis is this, that a principle somewhat similar, a similar enlargement of view, with corresponding practice, at once varied and specific, is required in a vast number, we would say the majority, of ophthalmic disorders. In a word, all judicious and efficient practice should be based alike on an intimate acquaintance with physiology, pathology, and therapeutics; and unceasing attention should be directed to the digestive organs which supply the nourishment to the frame,—to the respiratory, which renovate the vital fluids,—to the circulatory system, which distributes these,—and last, though not least, to the excretory organs which maintain the purity and salubrity of the whole.