BENJAMIN TRAVERS.
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BY
PERCY DUNN, F.R.C.S.,
LONDON.

BENJAMIN TRAVERS was one of the pioneers of ophthalmic surgery in England. He was one of the first general surgeons who combined with his work the study of eye diseases. The enterprise was a bold one, as we shall see. Thus does he describe the situation as it affected him. "In this country," he writes, "I believe no one before myself who designed to practise general surgery, ventured to give more than a cursory attention to the diseases of the eye. A fear of being disqualified in public opinion, by a reputation acquired in these, for the treatment of other diseases, was a motive, however groundless, sufficient to deter surgeons from the cultivation of a large and legitimate field of observation and practice."¹ And yet he did not act precipitately in coming to a decision. Just previously to the time that he avowed himself an ophthalmic surgeon, while practising as a general surgeon, there had appeared a strong pronouncement upon the subject by an authoritative writer, Samuel Cooper, the author of the then important work, "Cooper's Surgical Dictionary." Therein the opinion was expressed that "no one except the thorough surgeon can make the complete oculist: by which last term is not meant anybody who can merely manage to extract the cataract better than the generality of surgeons, but a man whose science leads him to recognise the analogy betwixt the diseases of the eye and those of other parts, and whose knowledge of the latter, while it qualifies him in a great measure for the treatment

of the former, gives him a decided superiority over the bare oculist." This statement casts a somewhat lurid light upon the practice of ophthalmology at the beginning of the nineteenth century. There were factors which explained it. First, eye surgery, such as it existed, was under a cloud, as the happy hunting ground of a horde of impostors, a gregarious class of quacks, who thought nothing of couching cataracts in market places. As a matter of fact, eye surgery was scarcely above the level of dentistry—then a debased and neglected department of medical practice. This may be gathered from the following poetical attempt³ to gauge the situation :

" Yet they that very hardly
Teeth can draw,
Unless they spill much blood
Or break a jaw,
Will deal with eyes
And boast of famous acts
They have performed
In couching cataracts."

Furthermore, Queen Anne, to her discredit, had previously employed a quack oculist, whom she knighted. This quack—Sir William Read, as he became—was a cobbler, who could neither read nor write. Because, therefore, quacks had claimed a dominance in eye work, there was probably a feeling, that to a professional man, it was derogatory to be identified with such a discredited practice. Still, there were a few medical men who practised nothing else, and these labelled themselves oculists. But these oculists themselves were regarded askance by their professional *confrères*. The eye was held to be chiefly a "constitutional" organ, one of the diseases of which could not be properly understood, unless the practitioner possessed a fully equipped knowledge of disease generally. How, for example, could a "bare oculist" know the subtleties of the usefulness of calomel, the sheet anchor in the treatment of eye diseases, without the experience gained and fortified by the general practice of his profession? For these, and possibly other reasons, the study of ophthalmic surgery was deliberately and woefully neglected, as Travers records; as a speciality, it was discounted, the prejudice against it being based upon an illogical misconception, the harmfulness of which was only exceeded by that of the failure to realize the importance of the issues involved. It was this degraded attitude of the profession which Travers sought to combat, when as a general surgeon he took the bold step of identifying himself with ophthalmic work. Dispassionately viewing his decision, one must concede that he conferred a three-fold benefit, in which ophthalmic surgery, the profession, and the public respectively participated. Again, the step was a bold one, because of the risk he ran of compromising his professional position, and of bringing upon himself the disapprobation of his hospital colleagues.

Quite possibly had he held a less commanding position than he did as a surgeon, the risk might have materialised to his disadvantage; meanwhile, the fact remains, that even after seven years' work upon the staff of an ophthalmic hospital, he still deemed it necessary to offer further justification for the bold step he had taken. "But whether," he writes, "my example or my services have been in any degree instrumental in promoting so desirable an object as that of recalling to the notice of the profession at large the neglected subject of these [eye] diseases, is a matter of no public interest, and which I am content to leave to the candour of the profession." And, as if further to strengthen his case, he adds, "I entreat it may be understood that it is far from my meaning to insinuate the slightest derogation from the merits of some truly respectable members of the profession, who confine their attention to this class of [eye] diseases."⁴

Such was the position of eye surgery in 1810, when Travers was offered and accepted the post of surgeon to the London Infirmary for Diseases of the Eye. The vacancy on the staff was occasioned by the death of Saunders,* the founder of the Institution, an institution the reputation of which has since become world-wide as Moorfields Eye Hospital. For four years Travers discharged the duties of the appointment unaided. By means no doubt of his strenuous efforts, the hospital soon became an important teaching centre for students, many hundreds of whom, as he tells us, passed under his tuition. Apparently the work became greater than he could deal with without assistance. In 1814, therefore, a second surgeon was appointed, and, as he records, "Mr. William Lawrence became my colleague."⁵ This appointment was evidently to Travers a source of much satisfaction. He worked with Lawrence for three years and then resigned, thus raising the latter to the senior post. In commenting upon this, he writes, "I consider it to be no ordinary sanction of my views that they were thus seconded by the co-operation of a gentleman, so highly distinguished, as the present senior surgeon of the institution."⁶

As was to have been expected, Travers wrote a book on his speciality. With the increased leisure, gained from some release of hospital work, he found the time to compile a volume on "A Synopsis of the Diseases of the Eye and their Treatment." The first edition appeared in 1820; a second in the following year; and, later, there was a third. The treatise, he tells us, is the record of his personal experience, and is not a compilation based upon the work of others. We may therefore accept it, so far as it goes, as a reflex of the practice of British ophthalmic surgery of his time. Space does not permit of more than a few

* A biography of J. C. Saunders was published in the *Royal London Ophthalmic Hospital Reports* of November, 1914.

brief references to some of the details of this work. Perhaps an outstanding feature is that throughout the volume, only once, and that incidentally, is mention made of glaucoma. There is reason for surprise at this, inasmuch as in the sixteenth century, glaucoma was described and recognised as a distinct disease under that name. The following passage may be quoted, as representing Travers's views upon the subject. Under the heading "organic amaurosis" we read "A diffused turbidity or milkiness, apparently of the vitreous humour, is strikingly observable when contrasted with the jetty blackness of a healthy eye. . . . This state, which the ancients called glaucoma, is very often mistaken for incipient cataract, and I have known it called a black cataract, and the operation of extracting the transparent lens performed. It appears deep-seated, diffused, and of uniform density, and in examining such cases at long intervals I have not found the appearances vary. The lens remains transparent. There are, however, some cases of a deep-seated opacity so closely resembling that of incipient cataract that it becomes next to impossible to decide the actual state of the lens. I have seen the latter, upon an experimental extraction, in such a case, semi-transparent and of a bright yellowish tint throughout, and the sight of the patient has been considerably improved. The vision is in general defective in a much greater degree than the visible opacity explains, and this combined with the depth of the opacity, a dilated, and sluggish pupil, and some other symptoms of amaurosis, makes for the opinion that it belongs to the latter class."⁷ It is not without interest to quote Saunders, his predecessor at the London Infirmary, upon the same subject: "This organic disease, amaurosis, is very rapid in its progress, and produces blindness in the course of a few days. Even on the first application of the patient the loss of vision is often found to be total. The pupil is dilated, the lens protrudes, the convex iris seems to touch the cornea, the humours of the eye are turbid, dull, dim, especially the crystalline, which becomes tawny or quite opaque, the vessels of the sclera and conjunctiva are unusually large, and run in distinct clusters. The disease remains stationary, so far as I have observed, with occasional pains in the eye or head. This form of amaurosis is intractable."⁸

In this description it is observable that the term glaucoma—a term honoured by Hippocrates, and still doing duty in ophthalmic nomenclature—is not even mentioned. Such was the knowledge of this disease a hundred years ago. What will posterity, a hundred years hence, have to say of the literature of glaucoma in our time?

It would appear that the staff of the London Infirmary for Diseases of the Eye issued annual reports of the work carried on at the institution. This may be gathered from the fact that Travers on one occasion refers "to the last annual report," as containing

the record of a noteworthy case. Inquiries, however, at the libraries suggest that these reports have not been preserved; at least, if they had been, we should have expected that some copies would have filtered into the libraries for reference. The "singular case" to which Travers refers was that "of a hydatid cyst of the orbit, protruding the eye. The hydatids were evacuated by puncturing the cyst, the eye returned into its natural situation, and the patient was completely cured. This is the only instance of such an affection that has occurred since the opening of the Infirmary!"⁹

A curious reference to Milton occurs in this Synopsis. When our great epic poet determined, as a last resource, to seek for relief from his blindness, the aid of Thevenot, the French oculist, he wrote a full description of his symptoms. In respect to this Travers comments as follows, "I subjoin it as the best account that I know of the symptoms of amaurosis in its progress from the state of functional debility, to the confirmed, perhaps organic, *gutta serena*. I have preserved his own words for the sake of accuracy."¹⁰ And he quotes the report, as Milton wrote it—in Latin. It may be surmised that this Latin dissertation could scarcely have proved informative, save to those medical students and practitioners who could claim to be classical scholars. Milton, however, as we know, left on record an ode, a word-picture of his symptoms, the details of which are in keeping with the suggestion that the cause of his blindness was chronic glaucoma. And yet another hypothesis has been advanced that his blindness was due to detachment of the retina.

There emerges from the perusal of the observations upon cataract the impression that Travers regarded the operation of extraction as soundly based and usually successful. This, in the pre-antiseptic days of his time, is worthy of note. He was an ardent advocate of an exclusive corneal section. "It is," he says, "a point of considerable importance that the section should be purely corneal." Again, he claims that "if the section be clean, situated between the pupillary edge and the margin of the cornea, or a little nearer to the latter, if it be of such extent as to allow of the perfectly easy escape of the lens, if the conjunctiva, the sclera, and especially the iris be untouched, and the capsule freely lacerated, without lesion of the vitreous capsule, then the operation is perfect."¹¹ Possibly the explanation of his confidence and success lay in the fact that in avoiding vascular structures he reduced to a minimum the risks of septic infection. Again, if the iris prolapsed after the operation, the prolapsed portion was snipped off, and the surface and edges of the wound were touched with the "caustic pencil," a procedure for further lessening the risk of sepsis. In making the section he always used a Beer's knife, preferring it to those introduced by Richter and Wenzel, which seem to have been mostly in vogue during his time. Nocturnal pain, after the operation, was always treated by a

"full blood-letting," and the bandage over the eye was dispensed with after the second or third day, a "deep-black shade" being substituted for it.

Travers has been largely quoted in ophthalmic literature in connection with his treatment of lacrymal obstruction. In his book he deals with it fully. A recent writer thus conveniently sums up the treatment. "Benjamin Travers, who was sceptical as to the utility of the gold cannula, which Dupuytren used so largely during his time, also employed probes, which he passed as Anel did, through the punctum and the canaliculus. His probes, however, were larger than those of Anel, and his results were therefore more satisfactory. He also employed slender styles with flat heads, gently sloped, which he introduced through the canaliculus, permitting them to remain in position for twenty-four hours only, because of their tendency to cause ulceration of the punctum."¹² But it is worthy of note that Travers had, in William Mackenzie, a contemporary who wholly disagreed with the probing treatment. "Anel, Travers, Jacob and others," writes Mackenzie, "have recommended that probes, and other means for removing the stricture, should be passed down from the puncta, through the sac, into the duct. Both these modes of practice have been found to be painful, dangerous and ineffectual. They not merely fail in the object intended, but are apt to end in incurable atony of the puncta, by causing them to split, or to ulcerate, and are, therefore, generally abandoned."¹³

Sufficient has probably now been said to emphasize the part which Travers played as an ophthalmic surgeon. There only remains, therefore, to be considered some brief references to his personal history, and to note the distinction he otherwise gained as a member of the profession.

He was born in Queen Street, Cheapside, in 1783, and was the second son, in a family of ten children, of parents who were wealthy. He was the first of Sir Astley Cooper's pupils and began his medical education in 1800, at the time of the appointment of Cooper to one of the surgeoncies at Guy's Hospital. His intimate connection, both as a pupil and socially, with his distinguished chief, had much to do with moulding Travers's subsequent career. The means by which he was first brought in contact with Cooper, illustrated a custom, which in those days more or less prevailed. It was a habit with laymen of industrious minds, desirous of adding to their knowledge, to attend the lectures of distinguished physicians and surgeons. A notable example of this was pointed out by Dr. Norman Moore, at the reading of my paper on Andreas Laurentius, before the Historical Section of the Royal Society of Medicine. Laurentius, as a professor of anatomy, used to have among the audience at his lectures, his Royal patron and friend, Henry IV of France. Similarly, Travers's father attended the

lectures given by Sir Astley Cooper, and was accompanied upon several occasions by Travers himself. Becoming attracted and impressed by the vista portrayed of a medical life, he determined to adopt medicine as his career, and his father being a wealthy city merchant, no doubt gladly negotiated the fee, usually a large one in such cases, to secure his pupillage with Coooper. In 1806, Travers became a member of the Royal College of Surgeons, and soon afterwards was appointed demonstrator of anatomy at Guy's Hospital, a post which he held for many years. Then came the vacancy on the staff at the London Infirmary for Diseases of the Eye. The appointment was first offered to Henry Cline, who refused it. Travers was invited to fill the post, with the result we have seen. At the age of thirty, in 1813, he was elected a Fellow of the Royal Society, and two years later, the honour of a unanimous appointment was conferred upon him, as one of the surgeons at St. Thomas's Hospital. In 1817 he resigned his post of surgeon to the London Infirmary for Diseases of the Eye, after seven years' service. By this time Travers had gained a conspicuous reputation as an oculist. In an obituary notice—Travers died on March 9th, 1858—a contemporary alludes to this. "The reputation already acquired by the subject of this notice for ophthalmic skill, was greatly enhanced by the publication in 1820 of his '*Synopsis of the Diseases of the Eye.*' This volume is elegantly written, and the illustrations are of a superior order, far better, indeed, than those which have appeared in many more recent works."¹⁴ It is plain that his *Synopsis* appealed to his contemporaries. In 1839, during Travers's lifetime, a eulogy appeared of it from Pettigrew. "This work," he writes, "was translated into Italian, and a New York edition of it was produced. It is an ably condensed system of ophthalmic surgery, and one of its great merits is that of being the result of the author's own observation, rather than a compilation from the work of others. The best proof of its value that can be afforded is that but few synopses have been more generally acknowledged by the profession."¹⁵

Of the contributions upon general surgical subjects which appeared under Travers's name it is not necessary here to speak. They were numerous, varied, and, in a progressive sense, valuable. A volume of surgical essays appeared, in collaboration with Sir Astley Cooper, his former chief. Travers' connection with the Royal College of Surgeons was long and distinguished, and only ceased with his death. He was elected a member of the Council in 1833; in 1838 he delivered the Hunterian Oration, a performance which was extolled for its excellence. He was twice President of the College, first in 1847, and, secondly, in 1856-1857, the year before he died. He was a Fellow for fifty years of the Royal Medical and Chirurgical Society, to the Presidential Chair of which

he was elected in 1827. Again, his position as a distinguished surgeon was recognised by the Court, Queen Victoria promoting him to the serjeant surgeoncy in 1857, an honour which, nine months later, was terminated by his death. Despite, however, the favour shown him by the Court, Travers, as we know, did not receive a title. In the early Victorian days science, as a whole, was not accounted worthy of encouragement in this regard. Many notable instances could be cited of scientific men receiving no titular reward as a State recognition of their distinguished services. Had, therefore, Travers lived in our day, his name, it is possible, would have passed down to posterity with a title, at least in some degree commensurate with his high position as a distinguished British surgeon.

In the following passage we gain a glimpse of Travers, as he appeared to his contemporaries: "He was tall, large-framed and well-proportioned, with a highly intelligent and pleasing countenance. His manners were prepossessing, and in consultation with his professional brethren he showed a high-bred courtesy which marked the refinement of his mind. He was ever popular, whether in the profession or out of it, and the announcement of his death will be received with heartfelt regret both at home and abroad."¹⁶

Travers was married three times and by these marriages had a numerous family. Only one son, his eldest, also called Benjamin, joined his father's profession—father and son established a record in the history of the College. Each was elected a Fellow of the College at the same time under the Honorary Rule, in 1843, when the new distinction was founded. Travers was buried, on March 12th, 1858, as recorded in a contemporary obituary notice "at the quiet little village of Hendon." For a long time this former "little village" has relinquished its rustic simplicity and rural quietude.

Benjamin Travers, junr., was for a short period resident Assistant Surgeon at St. Thomas's Hospital. Apart from this his career was uneventful, and he died in 1868, eleven years after his father's death.

And here our survey of the life of Travers may end. It is impossible to doubt that he embarked upon his ophthalmic work with a keenness, a spirit of enterprise, and a devotion to its demands, such as in his day must have rendered valuable aid in helping to purge the science of the slough of degradation which marred and arrested its progress. It is evident, too, that he brought to bear upon its practice those valuable surgical instincts of which he had proved himself to be the possessor as a general surgeon. With two such distinguished supporters as himself and Lawrence, the assumption is reasonable that probably a new era in ophthalmology came into being, with advantage to the profession, and greatly to the benefit of the public.

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COMMUNICATIONS.

BITEMPORAL HEMIOPIA: THE LATER STAGES AND
THE SPECIAL FEATURES OF THE SCOTOMA.

With an examination of current theories of the mechanism
of production of the field defects.

(Continued from p. 239.)

BY

H. M. TRAQUAIR.

ASSISTANT OPHTHALMIC SURGEON, ROYAL INFIRMARY, EDINBURGH.

Anatomy.

Having now studied the typical form of the field changes and the way in which they develop, it is essential, before proceeding further, to review shortly the main points in connection with the normal anatomical relations of the chiasma to the adjacent structures, more especially to those which lie beneath it.

In many, even up-to-date, text-books, whether of anatomy or of ophthalmology, the chiasma is said to lie upon the optic groove of the sphenoid, all further details being permitted to remain in obscurity. This description is not based on actual observation and is completely imaginary. Only the anterior half of the chiasma could lie on the narrow optic groove; the posterior part would lie over the olivary eminence and the anterior edge of the sella Turcica. The angle between the two optic nerves would require to be practically equal to two right angles. The infundibulum would pass