

normal be discovered, either in its condition or in its situation, an appropriate local treatment should at once be instituted. In a certain number of cases this will be speedily and permanently successful; but in other, and, as I am persuaded, not a few instances, it will fail. It is to be hoped that by means of carefully recorded observations we shall know ere long how far the symptom in question be dependent on a local cause, capable of removal. What is remarkable is, that in some cases in which there seems to be no lesion of the uterus, the application of a strong irritant to the cervix and the neighboring parts of the vagina is followed by relief, apparently on the principle of revulsion, or counter-irritation, just as the same effect is produced by the application of a sinapism to the epigastrium.

On comparing the cases reported above with each other, we notice one thing which is common to them all—the patients were not in good health at the time they became pregnant. They were either originally delicate, or they had become enfeebled by excessive lactation, abortions, or other debilitating influences. How far this state of things would prove to be true in a larger number of instances I cannot say, but the subject is worth investigating. Should further observations show this to be a common condition in the excessive vomiting of pregnancy, we may, in some cases, anticipate the evil, and prevent it by recommending a good diet and tonic medicine, and by enjoining the patient to avoid, as far as possible, everything likely to lower the general health.

REPORT OF THE COMMITTEE ON THE "PROGRESS OF OPHTHALMOLOGY IN THE YEAR 1864," TO THE AMERICAN OPHTHALMOLOGICAL SOCIETY.

By B. JOY JEFFRIES, M.D.

[Read before the American Ophthalmological Society, June 13th, 1865.]

YOUR committee has not considered it within its province to enumerate or criticize all that has been said or written upon ophthalmology during the past year, but simply to bring before you what seems truly in advance of our former knowledge, and show its importance in our branch of medical science, and its bearing upon the study and practice of the profession at large.

"Mr. Newton has demonstrated several new propositions, which are so many new truths, and are further advances in mathematical knowledge."—*Locke*.

The results of the labors of Donders and his assistants upon the accommodation and refraction of the human eye which have been given to the scientific world during the year 1864, by means of the "New Sydenham Society," may properly be called "new proposi-

tions, which are so many new truths and further advances" in ophthalmology. As the members of the Society have probably ere this rendered themselves familiar with the contents of this magnificent volume, embracing the long-continued researches of Donders, it is not necessary, perhaps not even becoming, for your committee to attempt analyzing these studies, already become fixed facts in ophthalmological and optical science. An analysis of these investigations upon the refraction and accommodation of the eye is in reality the book itself. It is, therefore, but left to us to show the bearing of these important truths upon our specialty, and our relation to our medical brethren. They have revolutionized the treatment of anomalies of accommodation and refraction as thoroughly as the invention of the ophthalmoscope revolutionized the treatment of internal affections of the globe. They have, almost like the demonstration of a mathematical problem, not only determined the existence, but the treatment of myopia, hypermetropia, asthenopia and astigmatism. Together with the invention of the ophthalmoscope, the results of this application of the higher mathematics to the solution of problems in physiological optics have served to raise our specialty to a much higher grade in medical science. In speaking of ophthalmoscopic literature, an English reviewer said:—"It has been happily observed of a book that once produced much controversy—the 'Vestiges of the Natural History of Creation'—that the most conspicuous fact in connection with its history was the discovery of previously unsuspected strata of ignorance in the so-called intelligent and educated classes. In like manner the introduction of the ophthalmoscope into England was the cause of some sufficiently startling revelations of a similar kind. Many of the leading oculists were found to be unacquainted with the elementary facts of optics, and were therefore unable to comprehend the principles upon which the instrument was based, or to speak of it without unconsciously falling into error."—*Ophthalmic Review*, April, 1864, p. 90.

From remarks here and there cropping out in the journals in reference to Donders's book, we fear that there are still deeper "previously unsuspected strata of ignorance among the so-called intelligent and educated" surgeons, and even oculists of our day. Let this not be said of the members of this Society. Our duty to the profession requires us to be ever eager to learn, appreciate, and adopt all advances in ophthalmological science as well as in ophthalmological medicine and surgery. In this way only can we retain the position which our medical brethren are according us, and which is the surest means of shaking off from our specialty the fungus of quackery springing up from the soil of ignorance. The name of oculist will then no longer be a doubtful term. Already out of the profession comes a call for *scientific* ophthalmologists. A non-medical writer on physiological optics says:—"In the ordinary diseases to which the eye, like other parts of the

body, is subject, we may safely confide in the skill of the experienced physician; but in the diseases to which it is liable as an optical instrument, where optical science can alone direct us, we regret that professional assistance is difficult to be found. Guided by practice, the skilful oculist may dexterously extract the crystalline lens, or make an artificial pupil; but all the refinements of optical science are requisite in the practitioner to whom we commit the care of our sight; and we trust the time is not distant when men will be expressly educated for this branch of the healing art, and exhaust in their practice the rich resources with which science can supply them."—(*North British Review*, Nov., 1856, quoted in *Jago's Entoptics*, preface, p. 9.) In reality, ophthalmoscopy and the anomalies of refraction and accommodation are already becoming almost a specialty within a specialty. No better proof is needed than this to show that new truths have been discovered requiring the special energy and study of ophthalmologists. And the year that has passed has given us all opportunity to make ourselves masters of the researches of those who are the leaders in our specialty. In this, then, ophthalmology has truly advanced.

Ophthalmic Photography.—Some advance has been made in the method employed to obtain photographs of the fundus oculi of animals, by Dr. Henry D. Noyes, of New York, Dr. A. M. Roseburgh, of Toronto, Canada, and, we believe, also by Dr. Liebreich. The fundus of the human eye has not yet been photographed, yet we cannot doubt but that it will be done. It has been suggested that the quality of the light has not, perhaps, been sufficiently studied. That is, is there not some form of illumination to which the plate, but not the eye, is particularly sensitive? The photographer and the physiologist must combine their knowledge and efforts. It will certainly be a great gain to be able to photograph important cases of internal disease of the globe, for now the difficulty and expense of producing a colored lithograph, to represent even faintly morbid changes, is very great, and we all know how impossible it is to intelligibly describe what we see.

Autophthalmoscopy.—The inventions of Prof. Coccia, of Leipsic, Dr. Giraud-Teulon, of Paris, Dr. F. Heyman, of Dresden, and N. W. Zehender, of Bern, have lately "given us the gift to see ourselves as others see us." But the power of viewing one's own optic disk and retinal vessels is not simply a physiological wonder. It gives the ophthalmic student opportunity to study for himself by himself. Indeed, a good method of training himself in ophthalmoscopy is, to become by practice *au fait* in examining his own fundus oculi. He can also thereby learn what to see and how to see it. Although autophthalmoscopy is but in its infancy, yet we already have several different forms of the instrument, both for the upright and inverted image. It would not be safe to predict the results that may be developed by the autophthalmoscope. One thing let us note. It

sprung from philosophic ophthalmologists applying the laws of optics to physiology. It was not stumbled on, but wrought out by patient investigation and experiment.

Entoptics.—Prof. Donders's researches, and more especially Dr. James Jago's, have been given to the world during the year 1864. Entoptics is certainly one of the most difficult fields of study, and has consequently been lying fallow for some time. Dr. Jago has not only given us the means of investigation, but the results of those means, when employed. Although the ophthalmoscope, and more especially the binocular, has greatly removed the necessity of entoptical examination, yet Dr. Jago has so enlarged our method of determining the position and importance of ocular spectra that we can now hardly leave out this help to our diagnosis. His investigations certainly give us a series of new truths, and are therefore advances upon our former knowledge, whether they are applied or forgotten, to be again hereafter brought forward, when some additional discovery throws them out into relief, like these ocular spectra lying unnoticed or hidden till a glimpse through a perforated card calls them up as by the magician's wand.

Retinal Structure.—Heinrich Müller's researches on the structure of the retina in man and the vertebrates, published in 1856, have been the basis of our knowledge on this subject, and his anatomical investigations seemed so firmly fixed that they were considered as absolute. But Dr. Carl Ritter has given us lately his own continuance, as one might say, of Müller's work. He has certainly made a great advance over our former knowledge of the histological elements of the retina; so that Müller's views must be greatly modified. He regrets, with his readers, that Müller's death, just as he was completing his work, took away a critic who could both appreciate and weigh the value of his investigations. Till the anatomy of the retina is exhausted, its physiology must still be in a measure hypothetical. Dr. Ritter's careful deductions and patient research have brought us a long distance in advance of where Müller and those following him left us. These are the histological elements as he gives them:—Bacillar layer, granular layer, fibrous layer, ganglion-cell layer, nerve-fibre layer. He has traced the connection of these layers, and more especially shown and explained the supporting structure which holds and sustains them. This clears up a great deal before uncertain, and the anatomy of the retina commences to assume some definite shape. He concludes his work with this paragraph, the deductions from his investigations:—"Thus determining the functions of the separate portions of the nervous structure of the retina, the bacillæ simply receive the impression, their stimulation corresponds to the sensation: the granules convert the sensation into nervous stimulation; the granular cells give the sense of color; the ganglion-cells finally determine the retina's sense of location. Although I know very well that this is hypothetical, yet I

cannot but think that a definite expression of it will be of use." Late optical and physiological studies seem to support these views. We see how far they would carry us towards the true theory of vision. This is not, of course, the place to criticize them.

Binocular Ophthalmoscope.—We owe to Dr. Giraud-Toulon, and following him, Mr. J. Z. Lawrence, our thanks for the invention of the binocular ophthalmoscope, by means of which we are enabled to save a great deal of time and uncertainty in determining the position of extravasations, exudations, deposits, &c., in the vitreous humor, retina, and choroid. It is true, as Dr. Schweigger admits, that with the monocular ophthalmoscope it is possible to ascertain nearly all that the binocular instrument can reveal to us; but a moment's glance with both eyes is worth an hour's gaze with one. Probably in a short time ophthalmologists will use it to the exclusion of the monocular ophthalmoscope. A comparison of the two would be better than any description we can here give. Time will undoubtedly simplify as well as cheapen this instrument. It is, in the highest sense of the term, an advance upon our previous means of observation. Simply as a scientific or philosophical instrument, it will be of great value, as probably enabling us to settle many points in reference to binocular vision and so-called stereoscopic effect. It is a new means of experimenting in this field of physiological optics. Its general use will be looked forward to with interest by both the philosophical and pathological ophthalmologist.

Physiology and Theory of Vision.—Physiologists and philosophical ophthalmologists have, the last few years, given a great deal of time and study to vision, and their labors have been so productive of new truths as to attract the attention of the general scientific world. This has been, perhaps, in great part due to the invention of the ophthalmoscope, and the educated research called forth by it, as it brought again more forcibly before philosophers the human eye as the most attractive field for physiological and psychological study. The record of investigations for the last ten years is mainly contained in the works which we here enumerate.* It is of course impossible to give even a *résumé* of the results these authors have arrived at. Many optical and physiological experiments, always accepted as absolute, have been disproved or different deductions drawn from them. Others have stood the test of repetition by careful observers, and thus placed us in advance of our former knowledge. A carefully conducted physiological optical experiment is, as it were, however, but the anatomy, the deduction from it the physiology of vision. Some theories of vision have been again weighed in this recent research, and in this respect the past year has been productive of new truths. Others have not stood the test of crucial experiment, and thus we have likewise gained ground in our difficult field

* Want of space compels us to omit the list of works referred to.—*Eds. B. M. and S. Jour.*

of study. But it may be asked, how has all this laborious experimentation helped us? In what way have we been advanced by it? Our answer would be: From just these studies sprung the ophthalmoscope, the laws of accommodation and refraction, and the true meaning of strabismus.

Mr. Abbott's book, "Sight and Touch," reviews, as it were, the results of the others mentioned, with the purpose of disproving the Berkeleian theory of vision. That is, he has tested this theory by the experiments and laws, and reasoning therefrom deduced, in the long series of investigations carried on by physiological ophthalmologists the past few years. The result is, that the eye must be placed much higher among the organs of sense. Through it we gain a greater knowledge of the external world than has hitherto been conceded. The received ideas in reference to stereoscopic effect must be greatly modified. The use of two eyes seems to give us a greater amount, besides a different power, of vision gained by one. There is much we would willingly dwell upon in this book, but it is not perhaps in place here. It is proper to state that Dr. Giraud-Teulon, of Paris, prosecuted similar studies in 1860. Mr. Abbott has reversed the theory that sight was dependent upon touch; and here we have made a great advance, and can proceed upon a sounder basis in optical experiment, which must be, as it were, the 'anatomy for physiological deduction. "The science of philosophy must henceforth give place to the philosophy of science."

In three great points, then, has ophthalmology advanced, or an advance been made sure and proved, during the year. First, in the laws of the refractive media of the eye in health and disease; second, in the anatomy of the membrane, upon which these refractive media form the picture; and thirdly, in the means by which this retinal impression becomes visual perception. But these three taken together are "*sight*."

The past year has not perhaps been very productive of great improvements in ophthalmic medicine and surgery. Much it is true has been proposed, but time must test its worth, and say whether or no it is more than a revival or another application of former knowledge forgotten. It must be remembered that the old proverb applies to our specialty as well as to other branches of medicine, "There is nothing new that is true, or true that is new."

Yet in the every-day life, so to speak, of ophthalmology, the past year has not left us behind. There was a spirited meeting of the "Ophthalmologische Gesellschaft" in September, and the proceedings were published by von Græfe, Hess, and Zehender. A new ophthalmic journal, the "Ophthalmic Review," was started in London, and has been kept up with spirit and in the pursuit of scientific truth. The excellent "Reports of the Royal London Ophthalmic Hospital" have also been continued. Zehender's *Klinische Monatsblätter* and the *Annales d'Oculistique* contain ever fresh material

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and useful digests. The "*Archiv für Ophthalmologie*" has gone steadily on at the head of ophthalmic literature. A number of new and exceedingly valuable works and monographs upon various subjects have appeared from the European press, such as Schweigger's *Gebrauch der Augenspiegel*, Zander and Geissler's *Verletzungen der Augen*, Wecker's *Études Ophthalmologiques*, Carter's translation of Zander on the Ophthalmoscope, J. S. Wells's *Lectures on Glaucoma*, Canton's *Arcus Senilis*, and many others.

If, during these times of excitement and anxiety, we American ophthalmologists have not perhaps contributed our share towards the advancement of our science, we shall be pardoned by our medical brethren. We have, at least, by the very formation of this Association, shown that we are anxious to learn, by mutual intercourse and interchange of thought and criticism, and that we ever have in view the one great object of our specialty, the restoration of sight.—*New York Medical Journal*.

Reports of Medical Societies.

EXTRACTS FROM THE RECORDS OF THE PROVIDENCE MEDICAL ASSOCIATION.
BY W. H. TRAVER, M.D., SECRETARY.

Ovarian Tumor.—DR. COLLINS reported the following case, and exhibited the specimen. It occurred in a married woman, aged 58, mother of several children. The tumor first made its appearance in the left side of the abdomen about two years ago, and could be distinctly felt through its walls. Made an examination some two months since, and found some effusion of serum in the abdomen. He performed paracentesis on three occasions, and at each time some six quarts of serum were drawn off. Bowels regular, and no great difficulty was experienced in voiding her urine. The left thigh was swollen—the result of inflammation of the femoral vein. He consulted with Dr. Burnham, who advised an operation, which was performed on June 3d. The tumor was located in the right ovary, and was attached to the uterus in several places; also to the round ligaments and ascending colon. The womb was enlarged. The following morning there was great depression, and she died at noon of the same day. Dr. Collins did not profess to say what the character of the tumor was, as he had not examined it.

Ovariectomy.—DR. COLLINS reported the following case of ovariectomy, occurring in the practice of Dr. Burnham. The patient was a young lady, aged 18. The tumor made its appearance about a year previous to the operation. It could be distinctly felt through the walls of the abdomen, and appeared round, in lobes or lobular. It had been twice tapped, and a large amount of serum removed. The incisions were made in the manner usually practised in operations of this kind. The tumor occupied the right ovary, and adhered to the abdomen at several points. It was hard, solid, and weighed nine pounds. The disease proved to be encephaloid. The patient was not much exhausted; pulse 116. The following morning, 130. She be-