

Original Communications.

THE ENDOSCOPE AS AN AID TO THE DIAGNOSIS AND TREATMENT OF DISEASE.

By FRANCIS R. CRUISE, M.D. T.C.D., one of the Medical Officers to the Mater Misericordiae Hospital, and Lecturer on Medicine in the Carmichael School, Dublin.

[Read before the Medical Society of the King and Queen's College of Physicians in Ireland, March 15, 1865.]

MR. PRESIDENT AND GENTLEMEN,—I shall not occupy the time of the Society very long by the communication that I am about to make, although I feel convinced that its importance justifies me in trespassing upon your patience and attention.

I believe it will be granted by all, that one of the most important characteristics and improvements of modern medicine, consists in the direct exploration of organs, for the elucidation of their physiology and pathology.

This tendency to rest our knowledge upon physical rather than on rational signs, is one of by no means recent date; and, of latter days, it has become more obvious and better appreciated. Undoubtedly, within the last fifty years, it has made gigantic progress.

Perussion, methodised by Avenbrugger and popularised by Corvisart, seems but to have paved the way for Laennec's discovery of the immeasurable practical value of auscultation. Again, other portions of the body, lending themselves even more freely to examination than the thoracic organs, in due course have come to be objects of research with special observers, who, from time to time, have devised means and instruments for their more satisfactory investigation and study. Without delaying upon this point at the expense of the valuable time of the Society, I may quote, in illustration, the revival by Recamier of the long forgotten speculum uteri; also, the speculum auris, originated, I believe, by Newburg; the ophthalmoscope of Helmholtz; the laryngoscope of Czermak; and, though last certainly not least, the endoscope of Desormeaux; which latter instrument I have, on the present occasion, the honour of publicly exhibiting for the first time, I believe, in Ireland.

Agreeably to the old adage, that "Nought is new under the sun", as each of these valuable additions to our means of diagnosis has been brought under the notice of the profession, claimants have sprung up to dispute the honour and credit of invention.

I fear it would be very unprofitable, were I at the present time to discuss at length the precise merits of the competitors in each case; I shall, therefore, pass by that question; merely observing, in order to justify the quotation of the above-mentioned names, that I have endeavoured to associate with each method and instrument the name of that individual who has done most to demonstrate and extend its practical utility.

With respect to the endoscope in particular, I may observe that Desormeaux, in the introductory chapter of his recent valuable memoir, candidly acknowledges that the idea of an instrument capable of throwing light into deep cavities, such as the bladder and urinary passages, was not original with him.

He accords to M. Segalas the merit of originating the thought; and alludes to his unsuccessful attempt, as well as to the fruitless labours in the same direction of the late Mr. Avery of London and Dr. Hacken of Riga. He is in error in giving the palm of ori-

ginality to M. Segalas; for in 1806 Burrini of Frankfurt invented an instrument for the purpose; and others shortly afterwards followed up the matter, including the celebrated Dr. Fisher of Boston, U.S. Withal, it must be acknowledged that to M. Desormeaux alone is due the credit of patiently working at endoscopy, working for more than thirteen years, until he has at last produced a mass of facts so important and interesting that it is impossible for the profession any longer to ignore the subject.

A *propos* to the slight shewn towards the endoscope, a long and amusing history might be written of the opposition which has greeted every improvement in the science and art of medicine from its earliest days. Such a history would, I conceive, be out of place here. Frivolous objections avail nothing at the time when they are advanced, and only afford material for merriment and ridicule in the future. The practical commentary upon all such opposition lies in the contrast between medicine as we now see it, and medicine as our fathers knew it little better than half a century ago.

I shall not trespass on the valuable time of the Society by recounting a detailed history of my own labours at endoscopy. Suffice it to say, that it has been a dream with me since I became a student, and a pursuit after which I continually hankered. Years ago I tried to work with Desormeaux's endoscope; but, finding the light insufficient, gave it up in despair; and it is only of late that I resumed the study. Quite recently, a modification of the illuminating portion of the instrument occurred to me. I carried it out; and believe I have thereby succeeded in obtaining as much light as is needful for practical purposes. Since then I have worked assiduously, and have lost no opportunity of extending my experience of the endoscope. For my own part, I am quite satisfied that it is a most useful instrument; and I now venture to bring it publicly forward to receive the criticism and judgment of others.

The endoscope is an instrument devised and constructed for the purpose of throwing light into certain regions of the human body entirely out of the range of natural vision. That it is a most unquestionable success, I am satisfied; and I feel justified in stating, that I am convinced its field of practical utility is almost illimitable. I would venture to hope that, in the course of time, it may work as complete a revolution in our knowledge of many obscure diseases, as the stethoscope has wrought in the diagnosis of affections of the lungs and heart.

I hope, at no distant period, to bring before the profession a *résumé* of the work which it has already accomplished in certain branches of pathology; and to point out the principal new facts which it has brought to light, and the facilities it affords in the treatment of many ailments.

On the present occasion, I shall but briefly allude to its manifold capabilities.

The endoscope at its birth met with but little favour, and for many years was absolutely slighted and passed by. Desormeaux tells us how one of his teachers, unable to deny the reality of the instrument, merely asked him a question—"Of what use is it?" The answer to that query conveys its whole worth; namely, it enables us to see parts which, without its aid, are invisible.

Let us for a moment contrast the predicament of the physician called upon to treat a malady which it is possible for him to see, and one hidden from his view. For example, let us take a case of diseased eye, and a case of diseased urethra.

He will not content himself by calling the former an ophthalmia, without ascertaining what structure is engaged and wherefore. He will examine the lids,

the conjunctiva, the cornea, lens, and, if need be, will take his ophthalmoscope and investigate the vitreous humour and retina. It is needless to say how much information he may obtain from this simple inspection, both of the seat of the disease and of its nature, whether traumatic, catarrhal, arthritic, syphilitic, scrofulous, or others. His correct diagnosis lays the foundation for a truthful prognosis and rational treatment.

What, in contrast, is his position with respect to a case of blennorrhœa? In many, perhaps in most, instances, he can only guess out, by uncertain symptoms and unreliable antecedent history, whether the discharge arise from simple catarrh, from chronic inflammation, from relaxation of the mucous membrane, from syphilitic ulceration, from herpetic excoriation, from a granular condition of a segment of the canal, from disease of the prostate, and so on. In his uncertainty, his treatment must be empirical, and his prognosis unreliable; because he can neither tell the nature of the disease—whether communicable or not; nor can he foresee whether it will prove harmless in its results, or likely to lay the foundation of organic constriction.

However, the endoscope alters the case materially, and, as I think, for the better. By its aid, the urethra can be minutely examined, from its orifice to the neck of the bladder. Each single speck of disease can be ocularly demonstrated, and, if need be, subjected to precise local treatment.

I shall reserve for a future communication a detailed exposition of the symptoms of these several diseases of the urethra, as demonstrated by the endoscope; and shall now merely quote, for illustration's sake, a few cases recently seen by myself and others.

A few days ago, Dr. Fleming, of the Richmond Hospital, kindly invited me to examine for him a case of traumatic stricture now under his care. With the endoscope, I was able to exhibit the stricture with the utmost clearness, although it was situated four inches and a half from the glans. I was, moreover, able to point out the exact situation of the orifice, below and to the left hand side, and to introduce a probe into it. Dr. Fleming and Professor R. W. Smith were perfectly satisfied with the clearness of the demonstration.

I need not dilate upon the practical value of such an opportunity. Desormeaux mentions the case of an impassable stricture, in which Civiale, whose skill as a catheterist is undoubted, failed, after repeated efforts, to introduce an instrument, and finally called upon him to try what assistance the endoscope could give. By its aid the stricture was easily seen, and an instrument passed into the bladder.

An organic stricture, in a patient of my own in the Mater Misericordiæ Hospital, was, with equal facility, demonstrated, and, although previously quite impassable, I succeeded this morning in introducing a probe with the aid of the endoscope. Dr. Hayden, who is now present, did me the favour of examining this case, and will bear me out in what I state regarding it.

I do not wish to anticipate my intended communication upon the utility of the endoscope in various situations; but I cannot leave the subject of urethral stricture without alluding to its incalculable value in those cases in which urethrotomy is required.

With the endoscope the stricture may be divided in the sight of the operator, who can select, according to the circumstances of the case, the direction and extent of his incision. He is thus enabled to divide the callous parts alone, without trenching upon the healthy structures; and we shall see how important this is in a practical point of view, both as

regards the immediate and the ultimate consequences of the operation.

I may mention another out of many instances of disease of the urethra in which I lately obtained precious information from the endoscope.

A gentleman, aged about 24 years, of strumous and delicate habit, contracted blennorrhœa fifteen months ago. When partly cured of it, he caught a second infection some months later. The disease proved obstinate; and, despite a vast amount of treatment, he retained a chronic discharge with some scalding, and latterly was annoyed by slight dysuria and by a swelled and tender testicle. Recently, he placed himself under my charge. I carefully examined the urethra with the endoscope, from the neck of the bladder to the orifice. The condition of parts which I discovered was as follows.

The prostatic portion of the urethra was injected and slightly inflamed. The membranous portion was nearly quite healthy. The bulbous portion was *ulcerated and granular*; while the anterior four inches of the passage were perfectly healthy. In this case, I take it that the *real disease* is the ulcerated and granular condition of the bulbous portion of the urethra; that the congestion of the prostate is consecutive thereto, in consequence of the obstruction in passing urine; and that the orchitis is consequent upon the prostatic affection. Apart from the satisfaction of a precise diagnosis, the endoscope is doing good service by enabling me to apply concentrated caustic solutions to the granular ulceration; and, under this treatment, the patient is getting well. I do not know what other treatment could avail. A granular condition of the urethra will no more yield to mild injections than a similar state of the conjunctiva; and I could not use strong injections without damaging the anterior segment of the passage, which is at present sound. Of the importance and necessity of treatment in this case there can be only one opinion. This granular ulceration, according to the experience of Desormeaux, if left to itself, is sure to end in organic stricture; and the discharge from it is most undoubtedly contagious, as M. Thiry of Brussels has proved experimentally.

Time forbids my entering upon many other interesting points in the pathology of the urethra, which are cleared up by the endoscope; such as the connexion between its diseases and those of the testicle; the causes of the difficulty of healing urinary fistulæ; and so forth. In fact, I have delayed so long upon the subject, that it may, perhaps, be erroneously supposed that the sole use of the instrument is confined to those diseases. Far from it; there is no portion of the human body, into which a straight sound can be introduced, in which it will not be found of service. With it the interior of the bladder may be thoroughly investigated; tumours, ulcerations, and sacculi recognised; calculi examined and measured; and information gained respecting them as to form, number, position, whether encysted or loose, and so on. The rectum, beyond the reach of the finger and speculum, can be searched for ulcerations, constrictions, tumours, etc. The cavity of the uterus can be demonstrated; and it is needless for me to dilate upon the practical importance of this advantage. So also may the auditory meatus, the nasal fossæ, the pharynx, the larynx, and, I should even hope, the œsophagus. So recently as yesterday, I obtained most valuable information from an endoscopic examination relative to the precise attachment of a huge nasal polypus. Wounds, especially those suspected to contain foreign substances, may be searched with the endoscope; likewise abscesses; the cavities of ovarian cysts after paracentesis; etc. In a word, I may safely assert that it is utterly im-

possible, in the present state of our knowledge, to affix limits to the usefulness of the instrument.

[Dr. Cruise, having read the foregoing paper, proceeded to exhibit and explain the construction of the endoscope which he uses, and to point out the means by which he obtains a light possessing the requisite qualities of *intensity, steadiness, and facility in adjustment*. These details will form part of another communication. A discussion followed the exhibition of the instrument, in which many present bore testimony to its value.]

A CASE OF ASCITES,

ACCOMPANIED WITH OVARIAN DISEASE, IN WHICH PARACENTESIS ABDOMINIS WAS PERFORMED FIFTY-FIVE TIMES.

By HENRY HEMSTED, M.R.C.S., *Whitchurch, Hants.*

M. B., AGED 23, living at *Hurstbourne, Hants*, came under the care of my father, Mr. T. R. Hemsted, on April 10th, 1859. For the preceding six months, she had suffered from frequent attacks of pain in the abdomen, with vomiting and retching. On each occasion, leeches were applied with relief for a time. She had been a patient both in the *Southampton* and the *Winchester Infirmarys*.

Upon examination, the abdomen was considerably distended, with distinct signs of fluctuation. In the right iliac region, upon deep pressure, a tumour was discovered, hard, and of about the size of an orange. The distension continued to increase, and such discomfort was thereby produced, that on July 14th, 1859, paracentesis abdominis was performed, and five gallons of liquid drawn off. No unfavourable symptom followed. But in a short time, the abdomen began again to increase; and within five weeks, the operation was again performed, when an equal amount of liquid was withdrawn. During the succeeding eighteen months, the operation was performed sixteen times.

In the spring of 1861, the friends became anxious to have the opinion of some eminent London surgeon. She was recommended to *University College Hospital*, and became a patient under Mr. *Erichsen*, on April 17th, 1861. He gave the opinion that the liquid was situated in the peritoneal cavity; but that there was superadded a small tumour, in the pelvis. He did not recommend any operative procedure, other than the withdrawal of the liquid as it was required. She was tapped twice during her stay in the hospital, a week intervening between the operations. The ordinary amount (five gallons) was obtained the first time, but only three the second. On May 20th, 1861, she returned to *Hurstbourne*, and again became a patient of my father's. From this time, it was necessary to perform the tapping every four, three, or two weeks, up to January 29th, 1863, when the operation was performed for the fifty-fifth and last time. She became greatly depressed, never rallying, and died in February 1863.

At the *post mortem* examination, the peritoneal cavity contained more than a gallon of liquid, clear, without any shreds of lymph. The membrane itself was much thickened; in some places resembling moist wash-leather. The viscera were all firmly adherent to each other. On the under surface of the liver, there was a layer of coagulable lymph, which could be torn off in shreds. In the pelvis, there was a tumour, of about the size of a child's head, partly occupying the right lumbar region. This tumour was connected with the broad ligament of the uterus, and proved to be the right ovary enlarged. After removal, its weight was eleven pounds. It was afterwards examined by Professor *Harley* of *Univer-*

sity College, who stated that it was an ordinary ovarian tumour, made up of numerous cysts. The other organs of the body were all healthy.

I have been induced to record this case, from the time it continued under observation—forty-seven months—for the number of times the operation of paracentesis was performed—in all fifty-five times; and from the large amount of liquid withdrawn, at the lowest estimation, two hundred and seventy-five gallons.

The history of the case clearly pointed to some localised inflammation of the peritoneum, limited to the region of the right ovary, and having, as its cause, some irritative action of the organ. The ovarian tumour, in all likelihood, was never punctured; but at every time the trocar was introduced, the liquid was obtained from the cavity of the peritoneum.

Reviews and Notices.

HANDBOOK OF SKIN-DISEASES FOR STUDENTS AND PRACTITIONERS. By THOS. HILLIER, M.D. Lond., Member of the Royal College of Physicians; Physician to the Skin Department of University College Hospital, etc. Pp. 367. London: 1865.

HERE is another book on skin-diseases; and, like other writers on the subject, the author makes a classification of his own. This classification is a mixed one; partly founded on the natural affinities of the diseases, and partly on Willan's principle of elementary lesions. Dr. HILLIER arranges all skin-diseases under four main divisions—Acute Specific Infectious Diseases; Parasitic Diseases; Syphilides; and Other Diseases. The last division includes the exanthems, vesicular, pustular, papular, squamous, hæmorrhagic, and pigmentary diseases, diseases of the sebaceous glands, and of the nails and hairs, gangrenous inflammations, hypertrophies and degenerations, and heteromorphous exudations. Those who would study more closely the merits of this classification must consult the book itself. For ourselves, we most heartily wish that dermatologists would come to some agreement as to the best method of arrangement, and use it until something better, and allowed generally to be better, shall have been found. There is, however, one consolation: that, whatever be the classification, whatever the place in a system which a disease may assume, the variety of opinion as to this has comparatively little influence on the most important question at issue—that of its treatment. Skin-disease physicians treat skin-diseases—eczema, herpes, impetigo, tinea, or whatever they may be—according to the nature of the case and by their best judgment thereon.

It is, then, principally as a practical book that we have to regard this manual of Dr. Hillier's; and here we find much merit in it. Among the preliminary chapters, there are some very useful ones, concisely but clearly written, on definitions and other general matters. Thus, the fourth chapter contains a definition of the terms Exanthemata, Papules, Tubercles, Vesicles, etc. In the fifth chapter, Ætiology is discussed; and here the author shows how in some cases skin-diseases depend sometimes on affections of the general system, sometimes on diseases of individual internal organs; how skin-diseases