

on physiology, or one behind the knowledge of the day, would not have been tolerated, when so many others of acknowledged value were at hand to supply its place.

In a work which, like the one before us, is chiefly valuable as a correct and satisfactory exponent of the actual state of physiology, deduced from the observations and experiments of preceding and contemporary investigators, we are not to look so much for originality of matter as for fulness, accuracy, and impartiality, in the exposition of the labours of the most reliable cultivators of the science, and for clearness and system in the arrangement and treatment of the subjects embraced in it; so that it shall present a faithful and useful reflection of received facts and doctrines, with, of course, the views of its author on all those questions that still remain problematical, or, in regard to which a difference or opposition of opinion is entertained by authorities of equal weight.

In this latter point of view, the treatise of Dr. Dunglison is one admirably calculated to meet the wants of the student of human physiology. The author has, with commendable industry, noted the new facts, as well as the modifications of those previously recorded, that are due to the labours of the more recent physiologists, and the changes that, in consequence, the before received explanations of vital phenomena have undergone; these, with its clear exposition of the established truths and doctrines, render the present edition as fair an expression as can be desired of the physiology of the day—such as it has been rendered by the labours of a host of energetic and discriminating investigators.

We may, it is true, in a careful analysis of the work, find ourselves obliged to differ from the author as to the validity of one or two of the opinions he has drawn from established facts, and, occasionally, to accuse him of having given undue importance to certain series of observations and experiments, and the doctrines based upon them; as a whole, however, we can candidly say, that we know of no treatise better adapted for the use of the medical student, or of those who, although they are not preparing themselves for admission into the ranks of our profession, may desire, nevertheless, to become acquainted with the vital laws and phenomena of the human organism.

The work is well and richly illustrated; for several of the illustrations contained in former editions, others of a superior quality have been substituted, while about sixty entirely new ones have been added. D. F. C.

ART. XVIII.—*A Practical Treatise on the Diseases of the Testis, and of the Spermatic Cord and Scrotum.* With numerous wood engravings. By T. B. CURLING, F. R. S., &c. &c. Second American, from the second revised and enlarged English edition. Philadelphia: Blanchard & Lea, 1856. 8vo. pp. 419.

MR. CURLING'S admirable monograph has been the standard authority on its subject ever since it first appeared some twelve or thirteen years ago. The new edition may be safely recommended as not only sustaining, but decidedly surpassing the reputation of the old one in all the characteristics of a classical treatise, and in none more than in its practical tendencies. The peculiarly happy qualifications of the author for the preparation of such an essay, have evidently been at work in enabling him to make the utmost of the unusual opportunities afforded by the long interval between the two editions, and by the immense field of observation and research within his reach. Those who are familiar with the original work, superior as it was to all of its predecessors, cannot fail to be satisfied that the evidence of progress presented by the volume before us is fully in proportion to the advance of practical science generally, if not greater than there was reason to expect in a work already so complete in most respects and confined to the disorders of a single organ.

This is the impression which a careful comparison of the first and second

issues, of which both English and American copies are now upon our table, has made upon ourselves. The whole book has been subjected to a laborious revision by its able author; and has been correspondingly improved in style and arrangement, as well as in the addition of a large amount of valuable matter. In the course of this improvement new chapters have been added, many have been rewritten, and as the preface very modestly ventures to hope, nearly all of them contain additional facts of practical interest and importance. In order to accommodate the fresh matter and additional wood-cuts without increase of bulk, the introductory part on the anatomy of the testis is omitted in the London and New York copy. A smaller type and larger pago have enabled the Philadelphia publishers to retain this section in their edition, without making their volume as large as the other, at the same time that some notes and several extra illustrations have been introduced by Dr. W. H. Gobrecht, who was called upon to incorporate the cases of the author's appendix in the text, and to supervise the passage of the latter through the press.

We find upon examination, that notwithstanding the retention of nearly twenty pages on the anatomy, including seven wood engravings, together with three brief notes and eight new wood engravings in the remaining chapters, the American reprint occupies just one hundred pages less than the London and New York original. It should be said also that the paper and printing of the American edition are as good as usual, and the execution of the wood-cuts is all that need be desired—quite equal to that of their prototypes from the hands of the English artists.

It is difficult to make selections where there is so much to engage the professional reader. Nor is it much easier to point out the portions of the volume which, either on account of novelty or practical interest, may seem to demand especial notice. Without attempting such distinctions, we may say that in glancing over the pages our attention has been arrested by Chapter I., On Congenital Imperfections and Malformations—particularly Sect. III., On Imperfect Transition of the Testicle; Chapter IV., On Hydrocele; Chapter VI., On Orchitis, and particularly Sect. II., On Chronic Orchitis; Chapter VII., On Tubercular Disease of the Testicle; Chapter VIII., On Carcinoma of the Testicle; Chapter XIX., On Castration; Chapter I. of the part on Diseases of the Spermatic Cord, On Hydrocele; Chapters IX., X., XI., of the Third Part, On Diseases of the Scrotum, occupied with adipose, fibrous, and cystic Tumours of the Scrotum. The chapters just enumerated are but a few of the thirty-four which are worthy of study as containing much that is not to be found in the pages of the former edition. They may serve in some degree to show the nature of the advance made by the author in his twelve years' inquiries and records in relation to the subject of his elaborate and most instructive work. In addition to his own valuable accumulations, Mr. Curling was enabled to avail himself of the manuscript copy of a prize essay on the diseases of the testis, by Mr. Harvey Ludlow, a young and promising surgeon, recently a victim of the Eastern war at Scutari. Valuable tables and cases of interest well observed and recorded in this essay, are quoted and handsomely acknowledged by our author.

We conclude our notice with two or three extracts which appeared to be sufficiently interesting to reward a perusal here; at the same time that they will afford a very fair idea of the general tone and style of the book.

His remarks upon the use of the seton in the treatment of hydrocele were especially acceptable to us, inasmuch as they speak well and to the purpose of a remedy for which we have been taught to entertain more respect than is generally accorded to it:—

“The seton is a better mode of treating hydrocele than the other plans which I have described; but though a remedy less severe than these, it is not free from the same objection, of being very liable to produce more inflammation than is requisite for the cure of the complaint. It is, however, a very useful remedy in certain forms of the disease, and in vaginal hydrocele under certain circumstances. The plan I adopt is to pass an ordinary curved needle, armed with a single or double silk ligature, through the skin and sac in front, leaving a space of an inch or an inch and a half between the ends of the liga-

ture, which may be tied loosely together to prevent the seton escaping. The two or four threads should be sufficient to fill up the apertures made by the needle, and thus prevent the admission of air and escape of blood. The fluid in the sac then drains away along the threads. Inflammation of the sac soon arises, and causes fibrinous exudation. This is known by the greater solidity of the tumour, and it is then necessary to remove the threads, usually from the second to the third or fourth day after the operation. The inflammation and swelling afterwards subside, and the hydrocele is permanently cured by adhesion. In this way of employing the seton, the sac is disturbed much less than in the ordinary method, and the inflammation excited is usually mild. I have resorted to it in many cases of encysted hydrocele of the cord and testicle; and as the tumour in these cases is usually small in size, the seton proves the best means of cure. In cases of simple hydrocele, after the failure of injections by others, I have also used the seton with success, and I have tried it too in cases where no other treatment has been adopted. The great objection to its use in simple hydrocele is the uncertainty of its operation. I have generally found it both a sure and gentle remedy, though occasionally I have been disappointed by its producing high inflammation, which it was impossible to control, and which speedily ran on to suppuration." (p. 132.)

As appendix to the foregoing, it will be useful to add the following summary view:—

"A careful inquiry into the merits of the various modes of effecting the radical cure of hydrocele fully establishes the superiority of the treatment by injections, especially iodine. The older surgeons committed a great error by endeavouring to excite too high a degree of inflammation; for, not perceiving that the disease could be arrested by altering the action of the vessels of the part, they sought to obtain the closure of the natural cavity, which, moreover, they endeavoured to effect by producing suppurative inflammation and granulation, instead of by the gentler process of adhesion. The improvement in treatment consists in reducing the amount of inflammation to the lowest possible standard, the chief risk incurred arising from the plans employed proving too mild to be efficacious and sure. Injection has now been largely tried in this and other countries; and experience warrants us in asserting that, though it is not an infallible remedy, of all the plans hitherto practised it combines the greatest number of advantages. The pain attending it is slight; its effects are mild, and at the same time tolerably sure; if properly performed, it is free from danger; and it frequently succeeds without altering the natural condition of the parts. I know it is a question whether the cure by adhesion, though less perfect than that in which the disposition merely of the vessels is changed, is not upon the whole preferable. In the latter there is a possibility, if not a probability, of a relapse at some future period, the causes conducing to hydrocele still remaining; whilst the inconvenience produced by an impediment to the free movements of the testicle, in cases cured by adhesion, is regarded as too trivial to be any disadvantage. But, in the absence of data showing the degree to which the disease is liable to return after the cure without adhesion, I feel perfectly satisfied with such a result, and much prefer leaving a patient exposed to the doubtful chance of a relapse, than subjecting him to severer treatment in order to make sure of exciting sufficient inflammation to secure adhesion and obliteration of the sac. Injections, however, are not capable of effecting a cure in every case, nor are they adapted for every constitution. The judicious surgeon, therefore, whilst resorting to them as his ordinary remedy, will be prepared to avail himself, in particular and difficult cases, of other means more certain in their effects, such as the seton and incision." (pp. 141, 142.)

Next we present a long but curious and instructive account of spermatozoa in encysted hydrocele.

"In investigating the history of the cases of encysted hydrocele containing spermatozoa which came under my notice, I found in a majority of instances that the swelling had gradually formed after an injury to the testicle; and in two cases it was clear that a small cystic swelling had long existed in a stationary state, but after a slight blow had enlarged. So that it was most probable

that a duct had been ruptured by the contusion, and that the irritation consequent on the injury, and perhaps on the addition of the spermatozoa to the fluid contents of the cyst, had led to its further growth. After several attempts to establish by anatomical examination the existence of a communication between the duct and the cyst of the hydrocele, which failed owing to the difficulty of injecting the tubes in the head of the epididymis, I have recently, with the assistance of Mr. John Quekett, succeeded in detecting a communication in two instances. A man, aged fifty-three, died in the London Hospital in July, 1854. His testicles being enlarged, were removed. On laying open the tunica vaginalis, I found a cyst containing about four drachms of milky fluid attached to the head of the epididymis in both testicles. At my request Mr. Quekett inserted a tube into the vas deferens, and injected the glands with mercury. The metal passed into the epididymis, and escaped freely into the cyst attached to it in both organs. The ducts of the epididymis, loaded with mercury, were found ramifying over the walls of the cyst, having been drawn out and expanded by the growth of the hydrocele. On examination of the interior of the cysts, the open mouth of the duct from which the mercury had escaped was distinctly visible. There was an oval opening in the membrane of the cyst, the edges of which were even and rounded, and at a point in the centre of this opening globules were seen escaping from a minute aperture in one of the ducts. The open mouth of the duct, into which a bristle has been passed, may be distinctly seen in the preparation.

"The examination of these two testicles affords the true solution of the diffi-



A. Vas deferens. C. Testicle. D. Epididymis, with the ducts expanded over the cyst. E. Cyst.

culty which has hitherto existed in satisfactorily accounting for the presence of spermatozoa in encysted hydroceles. It appears that as the hydrocele in-

creases in size, the delicate tubes are drawn out and extended over the cyst, a position in which they are peculiarly exposed to accidental rupture. That the opening was of old standing, and not produced by the pressure of the column of mercury, is shown by the character of the aperture. It may be objected that if such a patent opening existed, the hydrocele should go on steadily increasing from the ingress of the spermatic fluid, and not remain stationary, as we often witness in these cases. We can readily conceive, however, that in the full distension of the cyst, the ducts would be so compressed and obstructed as to cause the seminal fluid to flow through the other efferent tubes. If the hydrocele were emptied by puncture, the channel would again become free, and fresh spermatozoa would then enter the cyst. In some instances the opening of the duct appears to become permanently closed, so that after the puncture of the cyst there is no return of the hydrocele, as in the following case. An old man consulted me on account of a large hydrocele which extended up to the abdominal ring, the testicle being situated at the bottom of the scrotum. It was on the right side, had been forming for eight years, and had never been tapped. I introduced a trocar, and drew off thirty-two ounces of a milky fluid, which contained myriads of spermatozoa. I saw him two months afterwards, and found a fulness on the right side of the scrotum from the collapsed sac, but there was no return of the hydrocele.¹

"The ducts of the epididymis, when extended over the cyst, must not only be liable to rupture from a slight contusion, but also to be punctured in the operation of tapping; and no doubt they are occasionally wounded in this way. This appears to have happened in the following case: A man, aged fifty-one, had an encysted hydrocele, which was tapped by one of my colleagues, and about an ounce of limpid fluid was removed from two distinct cysts. He was again tapped by the same surgeon a month afterwards, and on neither occasion were any spermatozoa detected in the fluid removed. In a few weeks afterwards he applied to me in consequence of a return of the swelling, attended with a good deal of uneasiness. I performed acupuncture in three places, and in the drops of fluid which escaped, spermatozoa were found.

"Spermatozoa are stated to have been found in some two or three instances in fluid removed from the tunica vaginalis. It is not improbable that these cases may have been encysted hydroceles mistaken for simple. The diagnosis is sometimes very difficult, and in the case of the cyst examined by Mr. Paget, this error was made before death by a hospital surgeon. I have, however, found spermatozoa in the sac of the tunica vaginalis, and the following case will account for their presence. A man, aged fifty-four, died in the London Hospital of disease of the kidneys, of one of the ureters, and of the bladder, which appeared to be consequent on a severe blow on the loins about six weeks before. The tunica vaginalis of one of the testicles contained two ounces and a half of slightly opaque fluid, in which a few spermatozoa were found. There were three small cysts containing fluid, immediately connected with the epididymis, and also at one spot an irregular ragged membranous appearance, evidently caused by the rupture of a cyst. It is most probable that the spermatozoa had escaped from this cyst, which may indeed have been burst at the time of the injury. I have examined the fluid from the tunica vaginalis in a

¹ "The above explanation of the occurrence of spermatozoa in hydrocele is in complete accordance with the interesting observations of Professor H. Luschka in a Paper on the 'Appendicular Structures of the Testis' (*Virchow's Archiv. f. Path. Anat. u. Physiol.*, vol. vi. p. 310, 1854), with which I have only recently been made acquainted by Mr. Busk in a note in his recently published translation of *Wedl's Pathological Histology*, p. 465 (Syd. Soc.) Luschka states that the cavity in many cases communicates so openly with the seminiferous canal that the hydatid may be taken to represent a vesicular dilatation of the extremity of the latter, projecting beneath the epididymis. The communication with the seminal tube when narrower can, however, always be demonstrated by the introduction of a bristle, or by mercurial injection. But not unfrequently no communication can be discerned, and in these cases the cysts contain no seminal elements. Professor Luschka seems to have found less difficulty in detecting the communication with a seminal tube than I experienced.

large number of instances without finding these bodies, and I believe their occurrence in vaginal hydrocele to be extremely rare." (pp. 152-155.)

"From these observations, it will appear that I consider the treatment by pressure to be applicable either for the cure or relief of the majority of cases of varicocele occurring in practice. Certainly, in all those cases in which tolerably firm pressure with the fingers, at the abdominal ring, removes the sense of weight and uneasiness along the cord, this plan may be resorted to with every prospect of a beneficial result; and its simplicity, freedom from all risk, and efficiency, render it preferable to all operative modes of treatment. The truss should be applied whilst the patient is recumbent, so as to make rather firm pressure at the external ring. It sometimes happens that the truss, though worn with comfort after being adjusted in the morning, begins to produce uneasiness towards the after part of the day. When this is the case, the pressure should be diminished by loosening the thigh-strap. In general, the truss should be worn only during the day, though in some instances I have thought it advisable to recommend its use during the night also. Thus, in one case the patient suffered uneasiness in lying on the side affected, and was able to pass a better night on wearing the truss. When the scrotum is unusually pendulous, or when the veins are very long and form a plexus of any size, I advise the addition of the silk net suspender, which may be readily adapted to the truss." (pp. 373.)

Lastly, a short extract in regard to the treatment, radical as well as palliative, of varicocele, by pressure with a truss—in which Mr. Curling has had much experience and has met with great success.

The truss which is above referred to is delineated and described on p. 366, and several cases in illustration are given on the succeeding pages in order to explain its method of application and beneficial operation. This plan of treatment and its rationale have been known to the profession through Mr. Curling for several years, but we suspect that they have not attracted the attention they deserve. We remember listening with great interest to a lecture on the subject, read by Mr. Curling ten years ago, at a meeting of the Medico-Chirurgical Society of London. The report of this paper and the discussion on it were subsequently published and very generally quoted. His recommendation of the employment of the truss as he directs it for the removal of this common and vexatious infirmity, was no more decided then than it is now after a ten years' further trial. E. H.

ART. XIX.—*Manual of Materia Medica and Therapeutics.* Sixth edition, revised and enlarged. By Prof. FR. OESTERLEN: published by Haupp & Siebeck, Tübingen, 1856.

THE author of the above manual has been long favourably known to the literary and scientific world, not only by this *Materia Medica*, but also by his work on *Hygiene*, one on *Medical Logic*¹ (a work alike important to physician and naturalist), and various other productions. His manual of materia medica having in the course of a few years passed through so many editions, we may be allowed the conclusion that it must possess more than ordinary merits to commend it, for, considering the vast number of similar works, it could not otherwise have passed into the hands of so many thousands of readers in nearly every part of the world.

We are all aware that there is scarcely a department of medicine, for the development of which we need the aid and co-operation of so many various collateral sciences (more especially chemistry, pharmacy, physiological and chemical medicine, natural history and the like), as in that of materia medica and therapeutics. Such difficulties can alone be surmounted by a mind possessed of qualities, resources, and talents, such as are found united in the au-

¹ Published in English by the Sydenham Society.