marked immobility was produced in the eyelids, accompanied with a disagreeable sensation of dryness. A slight degree of inversion of the upper eyelid was also produced when the eye was being closed. These symptoms disappeared in three days.

II. ON THE SKIN.

Experiment 7.—A test-tube, containing an ounce of tincture, was applied for twenty-five minutes, with its mouth in contact with the skin at the point of the index-finger of the left hand. No change was produced in the tactile or common sensibility of the finger.

Experiment 8.—A small piece of flannel was soaked in tincture of physostigma, and with this a portion of the back of the hand, over the first and second metatarsal bones, was rubbed for fifteen minutes. A drachm and a-half of tincture was altogether used. The common sensibility in this region was almost entirely destroyed. Pricking with a needle-point produced very little sensation, and the region could be defined by a succession of pricks from the unaffected skin.

This experiment was repeated with the extract, and the result was the same.

I have much pleasure in taking this opportunity to acknowledge my obligations to Professor Balfour, for his kind liberality in supplying me with the greater quantity of the bean employed in this investigation. The remainder was sent to me by the Rev. John Baillie of Old Calabar, to whom, as well as to the Messrs S. H. Edgerley, Hugh Goldie, and Geo. Thomson, I am indebted for the promptness of their replies to my inquiries regarding the employment of this ordeal at Calabar, and for the valuable information they have collected for me. My sincere thanks are also due to Dr Charles Wilson, for many suggestions in preparing this paper for the press.

Part Second.

REVIEWS.

A Manual of Ophthalmoscopic Surgery. By Jabez Hogg, Assistant-Surgeon to the Royal Westminster Ophthalmic Hospital, etc., etc. Third Edition. Churchill and Sons: London: 1863.

The greater the number of exact observations made, whether in pathology or therapeutics, the more limited does the range of mere theory become.

If, to use Bacon's simile, we do seem to check the flight of genius and weary its bright wings by adding the lead of stern facts to its too nimble feet, we gain in certainty what we lose in speed; and the slow steady march, in which accuracy and attention make every step an acquisition, is preferable to the wing even of an archangel, which leaves no trace of its flight.

It was well observed by Pringle, more than half a century ago,
that, from the Greeks down to that time, medicine was a science in which there was a great deal of reasoning upon a small number of facts; and that in future, on the contrary, there ought to be little reasoning upon a great number of facts.

The only true basis on which a rational system either of pathology or of therapeutics can be built, is an exact knowledge of the anatomy and physiology of the healthy organism; and, looking back on the progress of the last century, especially of the last fifty years, which has been indeed for our art a new revival of learning, we must honestly own that the advance is due, not so much to an insight of ours keener than our fathers, or to greater industry on our part, but chiefly to an extraordinary improvement in the practical methods of research.

Medicine has laid the physical sciences under contribution, and by optical, acoustic, and chemical auxiliaries, the microscope, stethoscope, and the test-tube, has opened into storehouses of information previously undreamt of and hitherto inexhaustible. Every year brings wider fields, and lays them under more precise and rigorous cultivation. It is doubtful whether medicine will ever be placed on a level with the other sciences in point of certainty; for we have to deal, not with lines and triangles as geometry, or elements in various combinations as chemistry, but with organisms complex as the chemist's wildest dream, animated by that strange inscrutable essence, which no scalpel can define or microscope examine, the pysche or life, which we share with animals; complicated still further by the soul, to which, in its diseases, no leech, however skilful, can minister.

In the roll of improved instruments of research, the ophthalmoscope, the subject of the present treatise, must be allowed a high place. It has proved, or rather is proving itself to the oculist, what the stethoscope is to the physician. In the investigation of the deep-seated diseases of the eye it is invaluable. It has given a local habitation and a name to many a lesion the bad effects of which only were known before, and, massed together under the one dreaded name Amaurosis, in which, as Walther said, "both patient and physician were alike blind;" and, better still, it has given us instruction, showing, in some cases, structural changes which render treatment useless; and in others, mere temporary lesions which timely treatment can cure,—saving, in the one case, a useless and probably exhausting course of medicine; and the other, rendering a cure almost a certainty, which previously was at best a rare and fortunate accident.

No man could have more claim than Mr Hogg has to be the author of a work on the ophthalmoscope. The author of the first detailed notice of the new instrument in this country, with the advantage of a large hospital to work in, he has thoroughly identified himself with the progress of the ophthalmoscope. That this is the third edition of his work since 1857, shows the estimation in which

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it is held; and that within only six years the work has had to be completely rewritten and much enlarged, evidences the great strides which the new method of research has been making.

The first chapter contains an historical account of the invention of the ophthalmoscope, and the various forms it has taken. It is concise and practical; and in these days, in which everything is ascribed to the Germans, from systems of pathology to manuals of entozoa, it is satisfactory to find a due share of praise accorded to the observations of Cumming in the Medico-Chirurgical Transactions for 1846, which, however unnoticed in this country, had given the cue to Brücke and Helmholtz, of which they certainly made admirable use.

The optical principles involved in the use of the ophthalmoscope, the nature of light, and the artificial illumination of the human eye, are described in the second chapter; very simply indeed, but with sufficient scientific accuracy for any practical purpose.

In chapter third,—On the structural and functional accessories of vision—mutual relations, adjustment, and accommodation,—some interesting and difficult questions are raised; on the distribution of the nerves of the cornea, in which Mr Hogg’s observations differ from those of Dr His, as to the mode of distribution and the relation of the nerves to the stellate cells; on the origin of muscae; on the adaptation of the eye to distance, in which Mr Hogg differs from Donders and Helmholtz, in believing that in such adaptation the curvature of the lens is unchanged; on the adaptation of the vitreous humour for excluding the heat rays, besides its action as a refractive medium on the rays of light, so as to preserve the retina from undue exposure to changes of temperature.

A description of test-types and test-glasses, with a digest and extracts from Donders’ remarks on presbyopia, myopia, etc., closes this chapter. The next is devoted to the examination of the healthy and diseased eye, with special reference to the ophthalmoscopic appearances. The difficult question of the visible pulsation in the blood-vessels of the optic disc in some cases, is fully discussed without being solved.

The remainder of the work—one long chapter of 160 pages—is a very complete outline of the surgery of the cornea, lens, vitreous body, retina, choroid, and optic nerve, with special reference to the information afforded by the ophthalmoscope, and its value as a means of diagnosis. Many illustrative cases, chiefly from the author’s own practice, are given. It deserves most careful study; and though much remains to be done in ophthalmoscopic research, it is marvellous how much light it has already shed on subjects previously unknown.

Among the many questions of great interest and novelty, one or two deserve special notice. The new method of examination, as to the condition of the retina in those cases where a far
advanced cataract prevents the use of the ophthalmoscope, is fully described. Its proposer, M. Serres d'Uzès, calls it "phosphenic retinoscopy." The patient, with his back to the light, closes his eyes gently. Pressure is then made in different regions of the eye with any blunt, rounded instrument. A luminous circle, or arcs of a circle, if the retina be healthy, will be simultaneously seen by the patient; and if such are seen all round the eye, the inference is that the whole retina is functionally sound.

An interesting digest of the researches of Dr Liebreich on the subject of retinitis pigmentosa, and its relation as an effect of marriages of consanguinity, we would specially recommend to the attention of Dr Arthur Mitchell, as corroborating his views on that subject.

But the section in the whole book which will be first read by the oculist, from its practical significance, is that one which treats of the relative merits of iridectomy, and of Mr Hancock's operation of section of the ciliary muscle, as a remedy for the various pathological conditions of the iris, choroid, or humours, which we group under the name of glaucoma. Mr Hogg gives the preference to division of the ciliary muscle, of the merits of which operation no one has had better opportunities of judging. The exact method in which it proves curative is still a matter of doubt; but it is probably as much from its mechanical effect in relieving tension and evacuating a few drops of fluid, as from any relief of constriction and mechanical obstruction caused by the altered ciliary muscle.

The chromo-lithographs with which some of the ophthalmoscopic appearances are illustrated are exaggerated, and not so successful as we could wish; but wonderfully so, when we consider the difficulty of obtaining an artist who can either observe with the instrument, or appreciate what he does observe, and the trouble and expense attendant on the process of printing.

The whole work is extremely valuable, worthy of Mr Hogg's scientific reputation, and ought to be in the possession of every surgeon, whether specialist or general practitioner.

Practical Lithotomy and Lithotrity; or, an Inquiry into the best Modes of Removing Stone from the Bladder. By Henry Thompson, F.R.C.S. Churchill and Sons: London: 1863.

This work, devoted to the consideration of the operations in vogue for the removal of stone from the bladder, and the circumstances which in a given case should lead to our selection of one procedure rather than another, constituted in large part the Lettsomian lectures which Mr Thompson delivered last year to the Medical Society of London. To some extent these lectures appeared in the periodicals of the day, not, however, in the full and just proportion to which in the present volume they have attained.

Mr Thompson, the author of this work, has most justly gained
for himself a reputation as a careful and painstaking writer upon
the urinary organs, from two previous publications, which, in 1852
and 1860, gained for him the Jacksonian prize,—the first upon Stric-
ture of the Urethra, and the second upon Diseases of the Prostate.

In this as in his former works, Mr Thompson writes as though
feeling his way, treading tenderly, and communicating to the reader
the impression (perhaps an unjust one) that his knowledge derived
from the study of his subject is considerably ahead of his experience
as a practical surgeon.

He writes pleasantly, however, and we read on, feeling that
we have laid hold of an author who displays good plain common
sense, a well-balanced judgment, and a capacity for description, so
as to make himself easily intelligible to every comprehension.
What our author lacks in personal experience he supplies by bring-
ing others to his aid. He acknowledges in his preface the debt of
gratitude he owes to the "best known hospital surgeons of this
country for the very complete and valuable information relating to
nearly 1500 cases," which they have afforded him. The work
has, however, a special interest to Scotsmen, in as far as "the
total and unpublished notes" of Mr Crichton of Dundee's cases
of lithotomy have been placed at Mr Thompson's disposal for
the preparation of this work; while Dr Keith of Aberdeen has
most kindly aided him by giving him notes of no less than 300
cases of lithotomy and lithotripsy occurring in his practice. The
frequent reference made in the really practical part of the work to
the "long and valuable list" of the former, and to the "large
and admirable experience" of the latter, we acknowledge pro-
duces within us a certain sense of complacency,—a complacency
which is not unnatural, when we consider the position which Scotch
surgery has occupied in London, and the fact that the dexterity of
a Liston in this very operation of lithotomy took London by sur-
prise. Accordingly, we confess to have been not a little astonished
to find the name of that illustrious surgeon only twice noticed in
the work of one of the surgical staff of University College Hospital.
Surely, in fifteen years, his name and fame as a lithotomist has not
been forgotten in the hospital of his adoption, to the success of
which his name so materially lent its powerful support. If it takes
but fifteen years for one of the brightest constellations in surgery
to become extinguished in the night of oblivion, how shortlived
will be the reputation of the great majority of our modern sur-
geons!

In scanning the pages of Mr Thompson's book, we do not think
there is much which is strikingly novel either in the matter or
arrangement of the subject; the résumé of the labours of other men,
their devices, their successes, their failures, are well told, and for
the student or young practitioner there could not be a safer guide
than Mr Thompson's work. The anatomy of the parts concerned
in the operation performed for the removal of stones from the
bladder is succinctly described; the woodcuts in illustration are
very diagramatic, still they suffice to tell their own story. "Figure No. 20, p. 31,—anatomy in section of parts interested in lithotomy—position of hands in last incision," is certainly disproportionately drawn. Taking for granted that the ordinary length of the forefinger is 4 inches, according to this diagram the urethra must be 12 inches in length. Now, turning to Mr Thompson's work on Stricture of the Urethra, page 3, we find it stated that the average total length of the urethra from the anterior border of the *uvula vesicae* to the meatus is $8\frac{1}{2}$ inches, the greatest measurement being 9, the smallest $7\frac{3}{4}$ inches. Furthermore, in this diagram, of which Mr Thompson says "Mr Bagg has represented this for me very carefully, from a dissection made expressly for the purpose," we find the prostate represented as being in proportion fully 2 inches from base to apex. Turning to Mr Thompson's work on the prostate, page 11, we find that the measurement of the gland from base to apex is $1\frac{1}{4}$ to $1\frac{3}{4}$ inches. Besides, the distance between the apex of the pubic arch to the tip of the coccyx is exaggerated, and the apex of the prostate finds itself altogether outside of the outlet of the pelvis, being fully in one half of its length anterior to the plane of the triangular ligament.

The operations of lithotomy described are the lateral operation, the bi-lateral, the medio-lateral, the median, Dr Buchanan's method, the recto-vesical, the high operation, with more or less detail, and with ample illustration of these proceedings, and the instruments required in their regular performance, or in the execution of special modifications of them. Next follows a chapter upon the causes of death after the operation. Then a consideration of the difficulties and dangers met with in lithotomy. The next chapter commences the consideration of the operation of lithotrity, a brief history of the rise and progress of this method of treatment, the principles upon which instruments should be constructed to attain the objects aimed at in its safe performance, the systematic application of this method of treatment, including a consideration of its difficulties and risks. The second last chapter, containing an estimate of the different proceedings detailed, and their special applicability to cases, is a good digest of what is generally taught by surgical teachers of the present day, and may safely be recommended by them to their pupils as containing the elements from which a decision is to be formed as to the course of operative and preparatory treatment which should be employed. The feeblest portion of the work is the last chapter, consisting of illustrations of the procedure and principles inculcated in the foregoing portions of the work. These illustrations consist of 20 cases, including 21 operations,—14 of lithotrity, and 7 of lithotomy,—selected from the practice of the author; they are very meagre and not particularly in point, and had they been the only source upon which Mr Thompson could draw in obtaining the material from which this work had to be reared, sure we are it would be much less deserving of the praise and attention which is its just due.
Outlines of Surgery. By F. Le Gros Clark, Surgeon to St Thomas's Hospital, etc. Churchill and Sons: London: 1863.

A work on surgery by the surgeon to St Thomas's Hospital, and the translator of Dupuytren, must be judged by no ordinary standard. Qualified praises may be showered freely on books and men of lesser mark, on the principle that they have done what they could, and, perhaps, not having expected much from them, we have not been disappointed; but Mr Clark, were it only from his position, can claim no such questionable exemption.

This little volume consists, we are told in the preface, of the author's notes for his lectures somewhat amplified, which are offered to the student as a skeleton or groundwork, the details of which he is to fill in from observation, instead of depending too much on book-teaching in his early studies.

As in the place of a student of surgery in his first year, then, we must look at these outlines, and see how far they will help us in the study, and keep us from depending too much on book-teaching.

To compress the principles of surgery, as Mr Clark does, into 105 very small pages, necessitates of course almost the brevity of an index.

The whole question of surgical fever is dismissed in sixteen lines and a half—the varieties, pathology, and symptoms of aneurism have a page and a half devoted to them. Now, without any discussion of its quality, such concentration in the quantity is not suitable for students; it must be either defective in its brevity, or indigestible from its concentration.

Besides, such extreme brevity may be used as a pretext for, though it cannot be said to excuse, a slipshod pathology, quite intolerable in these days. Let us examine the quality of Mr Clark's essence of cancer:

"Cancer differs from all other growths in many features besides its microscopic character; it is an eliminative action established in some selected locality, and is exhaustive alike of the elements of life and of nervous energy. The product which forms the tumour is no conversion of texture, no hypertrophic growth, nor accumulation of natural secretion, but essentially new. It is uncontrollable by any known agent, and is often hereditary. Cancer presents itself in three different forms, viz.: encephaloid, colloid, and scirrhus.

"Encephaloid is characterized by its brain-like appearance and texture; it is the most rapid in its development, and exhibits under the microscope all growth in various stages and forms, the discharge from it containing the same elements. . . . The chemical constituents are fat and albumen, but the latter in greater abundance. Scirrhus is the same material (what material?) deposited in the interstices of fibrous bands; being sometimes quite cartilaginous in hardness, but less vascular and more indolent than the encephaloid.

Then, after one or two general remarks, and a quotation from Rokitansky, as to the frequency of cancer in various organs, comes the following astounding statement. "Encephaloid . . . is the only form prone to secondary development by actual contact or
conveyance in the circulation." Now, what does Mr Clark mean by this? We can hardly believe that an hospital surgeon and teacher of surgery means to deny the very frequent occurrence of cancer in internal organs, or the almost invariable extension of it to the neighbouring lymphatic glands in advanced scirrhus. The well-known statistics of Lebert and Birkett, apart from the every-day observation of the profession, have long ago proved that; yet the first-year student, in whose place we are, can attach no other meaning to the above sentence than such a denial. While again, if the meaning intended is, that cancers in internal organs, secondary to scirrhus, are always encephaloid, as used to be believed, the very high authority of Mr Paget showed years ago that usually such secondary cancers are in all points conformed to the primary.

No considerations of brevity can excuse the entire omission of such an important practical point as the spread of cancer by the lymphatics, to which Mr Clark does not even allude, though in the half page (in the practical division of the book) on mammary cancer, he does refer to the condition of the neighbouring glands as a point to be noticed in settling the question of operation. Many other instances might be given in which the attempt at brevity has resulted in defects of omission, and in obscurity of diction, neither of which are good for our student.

Such a synopsis of the surgical lectures of a teacher is always interesting to other teachers, as showing the order and arrangement of the course which has commended itself to another, and for purposes of comparison. Mr Clark's course seems to be arranged rather for convenience than on any scientific system, and, practically, this is what most teachers have to do. The operative surgery, for example, has to be compressed into one period of the course rather than spread through it, for the convenience of obtaining subjects. But some of the arrangements in this work are rather curious. Why does Mr Clark introduce acne, boil, carbuncle, and erysipelas into his first section, in the middle of his discussion of the various terminations of inflammation, between mortification and hospital gangrene, instead of putting them in their proper places, under diseases of the skin and cellular tissue? They are not merely given as instances of inflammation, but their pathology, causes, and treatment are fully discussed, and they are omitted under diseases of the skin.

Any full discussion of the practical part of the work is of course impossible from the great extent of the field traversed; but we cannot pass over unnoticed some most important sections of operative procedure in which Mr Clark's treatment is obsolete, and also based on very lax surgical principle.

When we are told in this year 1863, that, on account of the tediousness and trouble of opening the urethra in the middle line of the perineum, in cases of retention from obstinate structure, it is better to puncture the bladder from the rectum, we need not be
surprised that potassa fusa is recommended instead of cutting for the cure of stricture.

In excision of the elbow-joint, we find a T-shaped or crucial incision recommended instead of the H-shaped, or the single longitudinal, neither of which are even mentioned, and we are directed "to save the olecranon if possible," with what object, or how it is to be done, we are not told.

Syme's amputation at the ankle-joint is so altered by Mr Clark that we can hardly recognise it.

"The lower incision, i.e., the anterior margin of the posterior flaps, should be directly beneath the malleoli, and extend transversely across from one to the other. . . . The subsequent dissection is facilitated by another incision, carved downwards and backwards, and from the outer point of the union of the two flaps,—that is towards the tuberosity of the os calcis."

After this we are not the least surprised to hear of the results of such a procedure.

"Sloughing of the cellular tissue and of a portion of the posterior flap is not an uncommon occurrence, and therefore the latter should be of ample dimensions. The small angular flap left by the third incision is very likely to slough, but can well be spared."

Now this is utterly intolerable; that an operation which (when properly performed) is one of the most uniformly successful we have, should be garbled and vilified is bad enough; but that this should be done without a word of explanation as to the differences in the operative procedure between the operation invented by Professor Syme and the miserable apology described by Mr Clark, is really inexcusable under any pretext of brevity.

In a supplementary chapter, of about 60 pages in length, Mr Clark returns upon certain subjects previously only briefly discussed, and indulges on some of them in an elegant diffuseness apparently more natural to him than his previous self-enforced brevity.

We do not think that this little work will add much to its author's reputation, even on the principle conveyed in the northern proverb, of "Sma' fish being better than nane," but hope that the volume of Illustrative Clinical Cases, which is promised in the preface, will supplement its deficiencies and remedy its mistakes.

Transactions of the Pathological Society of London. Volume Thirteenth. London: 1862.

None of the medical societies in the metropolis are, judging from their transactions, in a more flourishing condition than the Pathological. Every year a handsome volume is published containing the record of its doings; and year by year, in addition to the well-known contributors, we find the names of new members who come for the first time before the Society and the profession. The
present volume is in no respect inferior to its predecessors; it contains a large number of interesting observations, illustrated in many cases by well-executed plates or wood-engravings. Consisting as it does of isolated observations, criticism would be out of place, and an analysis would be merely a repetition of the list of specimens at the beginning of the volume. We may, however, quote an observation recorded by Dr Samuel Wilks, regarding a specimen of typhoid ulceration of the intestines from a woman in the seventieth year of her age.

"The specimen of ileum presenting the well-known typhoid deposit in the glands is only interesting in connexion with the age of the patient whence it came, it being unusual to meet with this form of disease at so advanced a period of life. It is agreed by all observers, that typhoid fever is not often met with at this age, just as true typhus is less common in children. This fact was thought by the older physicians sufficient to explain the difference between these two forms of disease, that the younger subject in whom the powers of life are greater, and the intestinal glands in a state of greater activity, is more liable to the typhoid form, or, as it was formerly called, common continued fever with the intestinal complication, whilst the patient at a more advanced period of age is more liable to have the genuine typhus where the intestine is not affected. It has been said, that the mulberry rash of the last-mentioned form is due to the greater prostration of the patient at this age, and should the younger subject by chance have a similar eruption, it is due to some accidental debilitating causes which have placed him in a similar position to the older one. Such opinions are easily combated by those who maintain the specific forms of the two diseases, but even these are agreed as to the greater susceptibility of patients of different ages to a particular form of fever; thus, Dr Tweedie says, 'Typhoid fever is seldom observed above the age of fifty. It is not unlikely, that the alterations which Peyer's patches undergo with advancing age, may have something to do with the infrequency of enteric fever after the age of fifty.' It may be questioned, how far this statement is absolutely true, since in the absence of post-mortem examination a considerable difficulty might exist in forming a correct diagnosis of the nature of the case, seeing that typhoid does not present so well-marked symptoms in the old, just as typhus is more obscure in the young. In the case which suggests these remarks, the disease was supposed to be typhus, and it was only the post-mortem examination which revealed the true nature of the disease.

"The patient, a woman, was in her seventieth year; she had been ailing about two weeks with the ordinary symptoms of fever when she was brought to the Hospital. She was then in an extreme state of depression with excessive nervous and muscular debility, was quite insensible, and was delirious. There was no mulberry rash, the skin being quite clean, nor were any rose spots observed, and during the three days she lived, the bowels were open only once daily, and the motions were semi-solid. The post-mortem examination showed the typhoid disease well marked in the ileum; Peyer's glands being considerably enlarged by the deposit.

"The case may, therefore, be regarded as a good one in exemplification of the specific nature of the typhoid affection, for all the circumstances of the patient were those which should have insured the development of typhus with the mulberry rash, and yet here, in spite of age, the true characters of the typhoid disease were all present."