

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

*A Clinical Introduction to the Practice of Auscultation and other Modes of Physical Diagnosis in Diseases of the Lungs and Heart.* By H. M. HUGHES, M.D., Assistant Physician to Guy's Hospital, &c. Second Edition. London: Longmans, 1854. Post 8vo, pp. 302.

*Lectures on Clinical Medicine.* By JOHN HUGHES BENNETT, M.D., Professor of the Institutes of Medicine and of Clinical Medicine in the University of Edinburgh, &c. Edinburgh: Sutherland and Knox. 1850 to 1853. 8vo. Parts I. to VIII.

To form an accurate diagnosis in thoracic disease involves a synthetical as well as an analytical mental process: by the first, we determine those analogous phenomena which result from the combination of various physical conditions,—by the second, we infer the special character of these several conditions in their relation to such phenomena. The first demands a comprehensive knowledge of the anatomical and physiological characteristics of the healthy structures as the only safe foundation for a sound pathology—the second requires a close intimacy with morbid operations as they are evidenced through alterations in these structures. Pathology has therefore a twofold relation,—to disease as the exponent of vital action,—to health as the evidence of an abnormal condition. To study with advantage or practise with success, it is above all things essential we learn to appreciate these relations; the suggestions of theory will be thus schooled by the realities of experience; and the mind, led beyond the contemplation of mechanical to vital influences, will learn to ignore much of what abstract reasoning on material changes might have premised. “Hypotheses,”

Sydenham writes, "owe their origin to ostentatious vanity and idle curiosity, whence it is easy to conceive how much they must needs obstruct the improvement of physic, which is a science that depends chiefly on well-conducted experiment and close and faithful observation." Has not time but more truly confirmed this remark? Read nosological descriptions of a disease, and nothing appears more simple than its recognition, yet, absolve the mind from every preconception, and then closely study the progress of morbid action,—see alterations of structure without appreciable functional derangement,—observe functional derangement, frequently inexplicable on other supposition than the exercise of innate power by the material instrument,—and must not the great truth, whose value will be proportionate to the largeness of our conception of it, forcibly impress those who philosophically study? Medicine is a science of observation, whose principles rest neither in the adoption of those laws which regulate the changes of matter, nor yet, in the recognition of those phenomena which indicate the operations of life, but, in our appreciation of their mutual co-operation, and reciprocal relations; and, consequently, though we are enabled to speak definitely of one, yet, as we have no means of accurately estimating the other, to expect that uniformity in results which we admit as being wanting in their causes, or to infer from the mere presence of those results the particular nature of those causes, would be to adopt a process of reasoning altogether fallacious.

The elementary teacher of medicine can only propound those principles which have been deduced from admitted or demonstrable truths. He can at best but prepare the student's mind for that self-education to be acquired at the bedside of the sick, since, by informing him how, and what to observe, the path to knowledge is thereby divested of much of its difficulty and seeming obscurity. When, however, proceeding further, theory and practice join hands, the duties of the instructor take a much wider and loftier range, for in analytically treating so vast a science, beside establishing those principles and demonstrating those truths which form its basis, it is requisite he also expound the method of deducing from those principles and truths such general rules as may be subservient to others for the purposes of investigation;—while in order to prove the value to be attached to those rules or truths, it further behoves him to illustrate their application to particular examples: which preargues such a familiarity with disease as enables it to be determined in any individual case, how far coincident manifestations modify each other, and in what respect affections essentially

identical differ in their ultimate effects. Hence it is that clinical lectures must be ever regarded as the most valuable additions to medical literature, and at the same time the severest test of the physician's capability.

We have deemed it advisable to isolate such of Professor Bennett's Clinical Lectures as treat of thoracic disease, for the purpose of embracing them in our consideration of Dr. Hughes' recent work, inasmuch as we are satisfied that in the comparison of coincident writings the duty of the reviewer is often as fully accomplished as by the expression of critical opinions; while the relative value of the doctrines the works expound is thereby not unfrequently truly demonstrated. Dr. Hughes has, we are of opinion, offered to the profession a book of no ordinary value, even though wanting the charm of great originality: minute without being wearisome, comprehensive without proving prolix, every page bears the impress of the author's thorough appreciation of the subject he has undertaken to treat, with an anxious capability of fully and clearly imparting his knowledge. Written up, we might almost add, "*ad nauseam*," we scarcely believed a new work on auscultation should have proved such an acceptable addition to our existing literature, as that which, the preface informs us, Dr. Hughes has at length yielded to the urgency of professors and pupils. Whether we would be warranted in applying the same terms of commendation to the labours of Professor Bennett is an inquiry whose answer we will for the present defer; but, proceeding to lay before our readers an analysis of both works, we shall in our passing observations endeavour to afford them the fullest grounds for questioning our opinions respecting the first, and of forming their own judgment in reference to the second.

Dr. Hughes enters on the consideration of his subject by impressing pupils with the necessity of diligent and patient study in the hospital wards, where they can alone hope to educate their senses sufficiently to attain either dexterity or confidence in practice. He then proceeds to offer such cautions for the guidance of the conduct and demeanour of the examiner as we heartily approve of, among which he observes:—

"With the view of not exciting alarm in the mind of nervous individuals, all unnecessary display of stethoscope and pleximeter, and parade of every kind, should be avoided, otherwise some undefined notion of an operation may be induced, and the patient may become unwilling or unable to submit to the ordeal."

Proceeding further, we find it laid down as a principle whose propriety cannot be doubted—

“In all examinations the benefit of the person examined should be the primary consideration.”

The student of auscultation is impressed with the necessity of a certain acquaintance with the elementary sciences of his profession, conjoined with a general knowledge of the ordinary symptoms and results of morbid processes, without which, he must be unable to appreciate various changes of structure, or rightly estimate the knowledge derivable from the previous history and general or constitutional symptoms, whose relation to the physical signs affords the only safe grounds for practical deductions.

Dr. Hughes next proceeds to point out the method to be followed in auscultatory examinations, and, to assist the student, proposes such a division of the chest into regions or compartments as will enable him to render his previous knowledge available for recognising healthy sounds, and marking with accuracy the site of any lesion. Having particularized the different modes of exploration to be adopted in diseases of the chest for the determining of *physical signs*, in contradistinction to *rational symptoms*, he proposes to treat of them under the following heads:—Inspection, Palpation, Percussion, Auscultation, Mensuration, and Succussion.

Professor Bennett's preliminary remarks on the examination of the patient, taking a much wider range, equally demand our notice and approval. Advocating most justly method as well as accuracy in the inquiry, he proposes to his class the adoption of a plan which he had learnt when a clinical student in the wards of Professor Rostan, of Paris, its object being—

“To arrive as quickly as possible at a knowledge of the existing condition of the patient, in a way that will insure the examiner that no important organ has been overlooked or escaped notice.”

This plan, being calculated for general clinical researches, proposes a scrutiny of the circulatory, respiratory, nervous, digestive, genito-urinary, and integumentary systems, with the antecedent history, for the arriving at an accurate knowledge of his condition during life; while, for the carrying out of post-mortem examinations, we are afforded such hints as, if attended to, could not fail to render us thoroughly acquainted with even the minutest morbid change.

So far, both authors are excellent in their suggestions: as, however, we proceed, we shall find that such unanimity is by no means maintained.

Dr. Hughes' second lecture treats of “the method to be pursued, and circumstances to be noticed, on inspecting the chest,”

as well as "the indications afforded by inspection." That inspection of the thorax is of great value as an aid to the formation of our opinion must be at once evident, since by it we are enabled to appreciate visible departures from the harmonious action indicative of health, or deviations from the normal configuration; as also, to compare the diseased and healthy side; while in some instances, we can, moreover, infer from the external appearance the nature of those internal causes giving rise to particular changes. The character of the respiratory movements in pleuritic inflammations—the almost passive condition of the ribs and the peculiar nature of the thoracic enlargement in emphysema—the widening and polished appearance of the intercostal spaces, with their elevation, which, generally speaking, may be regarded as evidence of empyema—the irregularities of surface, together with the condition of the capillary vessels witnessed in malignant disease—the flattening of the chest in phthisis—the existence of tumours or visible pulsations—together with the recognition of acquired or congenital malformations,—are enumerated by Dr. Hughes as some out of the many causes which render it essential that "in every primary examination, and, indeed, in all examinations in which an opinion is expected to be delivered as to the condition of the internal organs, Inspection should never be omitted," whose institution, if delicately managed, we agree with the author, "may be perfected without offence to the most fastidious."

The mode and advantages of employing Palpation, with the indications it affords, are discussed by Dr. Hughes in his third chapter. Its assistance to diagnosis in determining the relative mobility of the different sides; the absence or presence of vocal vibrations; in detecting frictions; in ascertaining the positions and estimating the movements of organs; in recognising tumours; in diagnosing between fluid and solid enlargements; in estimating the force, extent, and character of pulsations,—are each portrayed in a clear and practical manner.

On neither of these modes of investigation, their necessity or advantage, has Professor Bennett, in his minute directions respecting the examination of the patient, expressed an opinion.

The important subject of "Percussion, or examination by striking," occupies Dr. Hughes' fourth chapter. It is scarcely requisite to quote observations confirmatory of its value, inasmuch as we believe it is universally admitted. Having detailed the advantages to be derived from, and the precautions to be taken in, instituting immediate percussion, and stated those objections which exist to its general application, Dr.

Hughes proceeds to the consideration of mediate percussion. To the method to be followed, and cautions to be borne in mind, with the general directions this chapter contains, we freely accord our fullest approval. Percussion in the normal state of the chest, so indicating the natural resonances of its different regions; the information it affords in diseases of the lungs and bronchi; in diseases of the pleura; in diseases of the heart and pericardium, in aneurism of the large vessels; and abscesses or other diseases of the mediastinum, is distinctly treated of and fully described; the inconstant and variable nature of the sounds percussion elicits in those different affections minutely set forth; and the causes which may modify their development at the same time detailed.

Professor Bennett has devoted a section of his clinique specially to this subject; we shall, therefore, pause to contrast the observations of the two writers. Professor Bennett being silent in reference to Immediate, passes at once to the consideration of "Mediate, percussion;" and advocates, for this purpose, the use of the ivory pleximeter of M. Piorry, as modified by M. Malliot, in conjunction with the hammer of Dr. Winterich, of Wurzburg. We have already given expression to Dr. Hughes' suggestions respecting the employment of these instruments. The advantages Professor Bennett attributes to their use, are ranged by him under three heads, viz. :—

"1st. That the tone produced, in its clearness, penetrativeness, and quality, far surpasses that which the most practised percussor is able to occasion by other means." 2nd. It is especially useful in clinical instruction, as the most distant student is enabled to distinguish the varieties of tone with the greatest ease. 3rd. It at once enables those to percuss who, from peculiar formation of the fingers, want of opportunity, time, practice, &c., are deficient in the necessary dexterity."

Dr. Hughes seems to be sadly blind to those many merits, for he, when fairly estimating the advantages of such instruments, objects to their employment on many grounds, one, amongst others, being that—

"Each participates more or less in the objection, of itself giving rise, when struck, to a sound which interferes with that dependent on the vibration of the thoracic parietes."

Again we read,—

"The very best *pleximeter* is produced by one of the fingers of the left hand, and the very best *percussor* is produced by the ap-

pressed fingers of the right hand. They possess the advantages of all others, and some which are peculiarly their own."

Contrasting this with the first of Professor Bennett's propositions, have we not a complete antagonism in the views of the two writers? Of which are we to approve? We believe the recommendations and objections of Dr. Hughes are impartial and scientifically correct; they are as follows, when speaking of the use of the finger as a *pleximeter*:—

"It is not open to the objection of sometimes causing pain by firm pressure upon fat or thin persons, as are the wood or ivory discs which are occasionally employed. It is capable of being much more nicely adjusted to uneven surfaces than either those rigid substances, or stiff leather, and can be much more easily maintained in the required situation than flexible but elastic India rubber. In thin persons the intercostal spaces form hollows which cannot be filled by unyielding pleximeters; air constantly intervenes between them and the parietes, and by its resonance, when the pleximeter is struck, modifies the sound dependent on the vibrations of the instrument itself, and thereby adds to the sources of fallacy thence arising. The stiff pleximeters, moreover, cannot be conveniently applied in the axillæ, or, in very thin persons, above or immediately below the clavicles. The firm pressure of the fingers, on the contrary, causes no pain; they are capable of being perfectly adapted to the surface of the chest however uneven; they are therefore equally efficient as pleximeters in fat and thin persons; they can be applied in the hollow of the intercostal spaces; they can be employed in every part of the chest; when struck they give rise to very little independent sound, and they are always at hand ready for use."

On this point, without much apprehension, we leave the decision to the common sense as well as to the experience of our readers. Next then in reference to Professor Bennett's second reason, "It is especially useful in clinical instruction, as the most distant student is enabled to distinguish the varieties of tone with the greatest ease," we would ask, is the patient benefited, or the most distant student in reality instructed by such hammering for knowledge? The one, we believe, may be rendered both nervous and excited; and the other, far from being advantaged, gains, at least, but an imperfect estimate of the truth; while, again, in many cases, we believe, with Dr. Hughes, that this loudness of sound is anything but desirable or trustworthy, since, in some instances, "a gentle tap will often display a marked difference in the two sides, when a strong blow will be utterly inoperative for the purpose." The reasons included under the third head are so futile, that they are positively unworthy serious consid-

consideration, if advanced as scientific objections,—such a peculiar formation of fingers as Professor Bennett has twice met with, we imagine may exist about once in a thousand students. We deny that knowledge worth anything can, as Professor Bennett would lead us to believe, be acquired intuitively from the use of such instruments by those who, “from want of opportunity, time, practice, &c.” (as the *ibid.* we presume Professor Bennett includes all the essential of such information)—“are deficient in the necessary dexterity”—since it is this necessary dexterity which lends either value or credit to the sounds elicited, and it is this opportunity, and the experience it affords, which alone enables those sounds to be properly distinguished or rightly estimated.

Professor Bennett, having thus satisfactorily settled the advantages offered by his favourite instruments, proceeds to notice the different sounds produced by percussion. The nine elementary sounds of M. Piorry are by him embraced in three divisions, *viz.*—the tympanic, the humoral, and the parenchymatous, according as they proceed from the organs containing air or fluid; or the tones being formed of a dense uniform parenchymatous tissue throughout.

“The sense of resistance,” writes Professor Bennett, “should be as much educated by the physician as the sense of hearing, and it would be difficult for an individual practised in the art of percussion to say which of these two points is the more valuable to him. Both are only to be learnt by practice, and considering it perfectly useless to describe that in words which may be learnt in half an hour by the use of the pleximeter and hammer on a dead body of the living subject,” &c. &c.

Hear, in reply, what Dr. Hughes thinks:

“The practice of this mode of exploration, apparently so simple, requires great nicety, tact, and delicacy, and considerable experience for its efficient application, &c. &c.”

It appears to us, that, according to Professor Bennett, it is a matter of no moment whether the student learn to percuss, or to estimate the sense of resistance, on the dead or living subject. Now, we consider it makes all the difference conceivable. We are satisfied it is both unsafe and untrue to promulgate the doctrine, that familiarity with disease can be so easily acquired, since vague and unsatisfactory results must ever follow hasty and imperfect generalization. Much time and anxious bedside study, with patient self-teaching, can alone impart that capability deserving confidence. The sense of touch must be educated; its powers of appreciation refined;



its useful capacity developed, if not formed, before those fine differences in tone or quality associated with their sensations conveyed on percussion or palpation, can be fully estimated. We do not hesitate to say, no half-hour's teaching could give this. If Professor Bennett, by these observations, means to convey that pupils, by such a prolonged investigation, may satisfy themselves of the fact universally known, and, we believe, generally admitted, that, proportionate to the volume and density of the body struck is the tone elicited from it, by the resistance afforded by it, we decidedly assent; that five minutes, aye, even one minute, would be sufficient for such a purpose: but we have no hesitation in declaring, that the useful application of such knowledge for the examination of disease demands its continued and careful exercise on the living body, where the capability of estimating vital forces can alone be acquired.

We seek not to deny that examinations may, on certain exceptional causes, be facilitated by the employment of the ivory pleximeter; but our views respecting its general adoption coincide with those Dr. Hughes so justly advocates. We conceive that, on scientific grounds, the use of the finger is to be preferred, since by it we are enabled, while estimating the difference in sound, to also judge of the character of the resistance and different degrees of resiliency in the organs examined. We believe, however, skilfully employed, the pleximeter, for such a purpose, would never equally respond to our expectations. We cannot, therefore, avoid expressing our opinion, that in his advocacy of his favourite instrument, Professor Bennett has manifested an exclusiveness which the experience of Dr. Hughes, and that of many very distinguished European teachers, by no means corroborate.

In his fifth chapter, we are brought by Dr. Hughes to the study of auscultation. Professor Bennett has also given a section specially to the same. The subject is so extensive, and embraces so many points of interest, that to attempt a full justice to all Dr. Hughes' observations would require a closer analysis than our space could at present admit; we shall, however, while being of necessity brief, endeavour to present our readers with a few, that they may anticipate the many excellent practical remarks the perusal of this work will afford.

Premising that the direct application of the ear to the surface is not only fully as effective as mediate auscultation in some, and that in many cases, it is even more so, directions are given respecting its employment; while the study of me-

diate auscultation, being that demanding the greater attention, to it Dr. Hughes' chief remarks are directed.

The several varieties of stethoscopes which have been proposed, and the principles which are considered to regulate their efficiency, are fully set forth—the instrument Dr. Hughes most approves of being that formed of wood such as is ordinarily in use. Having detailed the various forms of this instrument, we read—“The form of the instrument is of very trivial importance; and that the best stethoscope for any individual is clearly that with which he can hear best—which, by experience, he finds best suited to his ear.” Professor Bennett advocates the employment of those made of gutta percha. Speaking from our own experience, and reasoning on the method in which the sound is propagated, we may state that we gladly abandoned the use of instruments formed from that material; and we do not believe, that even in the most experienced hands they will ever fulfil the purposes for which they are designed, equally well as those Dr. Hughes recommends.

In their directions respecting the mode of using the stethoscope, Dr. Hughes and Professor Bennett are equally explicit. In very thin patients Dr. Hughes advocates the intervention of a pad of soft linen between the surface of the thorax and bell of the instrument, or to disregard the stethoscope and use the ear. Attention is also directed to the liability which exists to confound the creak produced by pressing the bell of the instrument on an œdematous surface, with sounds either originating in the lung, or dependent on conditions of the pleura.

In his observations on natural respiration, the different characters of the sounds in various situations and regions of the chest are enumerated, and the causes which may modify those natural phenomena particularized. Alluding to the indications from the voice, the difference between perfect and imperfect pectoriloquy is set forth, and both contrasted with bronchophony, while the causes which may modify and assimilate these tones are, we conceive, justly reasoned on. We pass many valuable observations on the character of the dry sounds in diseases of the larynx and trachea, and affections of the bronchial tubes, to pause on the author's remarks in reference to the nature of the respiratory sounds in emphysema. Dr. Hughes regards the prolongation of the respiratory murmur to depend partly on the diminished elasticity of the ribs, consequent on long-continued pressure exerted on them by the

enlarged lungs from within, and partly from the inability of the compressed air within the lung to escape through the absolutely or comparatively contracted bronchial tubes, with a rapidity equal to that with which the ribs descend. In his observations respecting the respiratory phenomena in phthisis, the true value of tubular, amphoric, and fistular breathing is canvassed. Metallic respiration being nearly allied to the two last, the difference of their causes is investigated and described by Dr. Hughes to be as follows:

"The difference of the fistulous and the amphoric respiration depends upon the size and form of the opening leading into the cavity of the lung or pleura; that the opening is small or obstructed when the former, and comparatively large when the latter sound is heard, and therefore the amphoric respiration may become fistulous by the tube through which the air gains admission into the free space becoming obstructed with secretion, or being diminished in its caliber from any other cause, and that fistulous may be converted into amphoric breathing by the removal of such obstruction, or by the tube from other causes becoming enlarged. I conceive also that the metallic ringing of the respiration is dependent rather upon the nature of the walls of the cavity itself than upon the form or size of the opening leading to it, and that it is from the vibration of these walls being communicated to the air contained within them that the peculiarity of the tone arises."

In his notice of the auscultatory phenomena, indicative of affections of the pleura, amongst other practical observations we find the occurrence of tubular breathing and shrill vocal resonance coexisting with a pleura full of fluid. This apparent anomaly Dr. Hughes explains by the supposition that, admitting the pressure of the fluid is not sufficient to wholly compress the larger bronchial tubes,—

"The vibration of these tubes is communicated to the spine, or to the bony parietes, against which they rest, and thence, as in a well-braced drum, to the walls of the entire cavity,—the fluid being so pressed that it moves as a solid, and conveys the vibrations of sound tightly as a solid to, and with, the solid walls."

The moist sounds in diseases of the air-passages are next passed in review. We shall rest satisfied with observing that Dr. Hughes, in his reasoning on the nature of those purely physical conditions adequate to their production, fully establishes the variety of circumstances which may occasion their presence, and perfectly negatives the supposition of any necessary association between the various physical conditions adequate to their production and the existence of a particular

constitutional state. Professor Bennett offers to his class a condensed "resume" of these sounds. It is most assuredly an condensed as it possibly could be. It may be the very essence of knowledge small in volume but great in strength, yet to us the information appears to have been dealt with rather a sparing hand, since this "condensed resume" though sufficient and direct the learner in the few particulars of edge. It subsequently detailed would scarcely enable him to understand observations of his own list or, however satisfactory to himself, that in these writers coincide in their conclusions, for while Dr. Hughes declares "physical signs are indicative only of certain physical conditions, and not of particular diseases," Professor Bennett adds, "The different sounds are only indicative of certain physical conditions of the lung, and in themselves bear no fixed relation to the so-called diseases of systematic writers. Their

Augmentation of the heart next receives Dr. Hughes' attention. The healthy character of its impulse, rhythm, and sounds, with the natural range of these phenomena, are separately noted, as also the peculiarity of the several modifications they undergo in disease. The varieties of murmur and the different nature of the causes capable of producing them, together with the grounds on which the diagnosis of exocardial and endocardial sounds rest, receive from Dr. Hughes the same close and impartial attention. Professor Bennett briefly alludes to these phenomena, and concludes his observations by the very practical observation—"Their true diagnostic value can only be learned by the careful examination of individual cases."

Dr. Hughes, in his sixth and seventh chapters, discusses the advantages of mensuration and succussion. Under the first, the assistance to be derived from the employment of the spirometer, chest measurer, and stethometer, are thus set forth:

"I cannot help expressing my belief that to the practical physician at the bedside, they are but imperfect substitutes for experience in the investigation of the nature of existing disease; that, even to those familiar with their use, they are as crutches to the feeble, which should be discarded as he gains strength; and that, to the vigorous and active, they are but as clogs and impediments to his free action and progress." Professor Bennett thinks otherwise, for he advocates their employment, and declares that the extent of the thoracic expansion is now capable of being accurately determined by the chest measurer of Dr. Sibson, or the stethometer of Dr. R. Quain; and adds, in reference to Dr. Sibson's chest measurer,—"My own experience of this mode of investigation has hitherto been too limited to enable me to speak confidently with regard to the value of

his method of diagnosis. The spirometer introduced by Dr. Hutchinson stands in a most fortunate position, for if we read it as a means of diagnosis, I have never been able to satisfy myself of its utility. For our own part we have already expressed our opinions on the value of these instruments in some late Numbers of our Journal, and they altogether coincide with those of Dr. Hughes.

The extent to which our examination of Dr. Hughes' work has insensibly reached urges us to conclude we will not say our labours, for to read a good book comes not within such a term; but to give imperfect analyses. Limiting the extent of statement of knowledge, and laid free from dogmatism, bias, and assumption, we recognise in its progress the efforts of a practical physician, fully competent and equally anxious, to forward science by dispassionate discussion of truth. From the days of Laennec downwards, authors have vied with each other in adding to the certainty of our means of physical diagnosis. We might, with the greatest confidence, refer to the pages of this Journal, and quote many original observations which have so well contributed to dissipate the obscurity, unravel the intricacy, and establish the efficacy of symptoms, physical signs, and treatment. We are not, however, called upon to do so; yet we may be permitted to observe that, nearly twenty years ago, Dr. William Stokes thus wrote: "It is never to be forgotten that, although in these various classes we have a vast number of well-marked and essentially different physical phenomena; there is not one of them which, taken singly, can be considered as a pathognomonic sign. Nay, we might go further, and declare that no possible combination of them can be considered absolutely pathognomonic." Our knowledge of disease since then has certainly made some progress, and it cannot, therefore, be denied, that no greater tribute could be paid to this physician's fidelity than that, after the lapse of such a time, an observer of Professor Bennett's great originality and vast opportunities should confirm the same by declaring: "No single acoustic sign, or combination of signs, is invariably pathognomonic of any certain pathological state; and conversely, there is no pathological state which is invariably accompanied by any series of physical signs."

The first of Professor Bennett's Clinical Lectures which we shall notice separately is that on bronchitis. In his preliminary observations we read:—

"It may be well, before proceeding to comment on individual

diseases of the lungs; to state, shortly, the diagnostic general rules which have resulted from previous accurate investigations into their physical signs and morbid anatomy."

Those general rules are accordingly set forward in nine propositions, associating certain physical signs with particular conditions, as a guide to diagnosis; which signs, Dr. Hughes' observations and our own experience attest, may or may not indicate the conditions to which, in these propositions, they have been assigned. Professor Bennett admits as much, and rightly impresses the necessity of their observation being combined with the study of the concomitant symptoms. Certainly, between M. Piorry's ivory pleximeter, as modified by M. Maillat, — Dr. Winterich's, of Wurzburg, hammer, — Dr. Sibson's chest measurer, — Dr. R. Quain's stethometer, in addition to the gutta percha stethoscope and other means, — it is determined to leave nothing untried which may appear to guide or assist the formation of an opinion. The following case cannot, however, be received as a very flattering illustration of the results which have followed on such a formidable array of means to an end. We shall quote it at length, as a full, true, and particular account of the history, physical signs, symptoms, progress, and treatment, in a selected example of a highly dangerous though by no means uncommon disease.

*Case I. Acute Bronchitis. History.*—Catherine Mulvie, aged 21, a servant, admitted into the clinical ward, July 21, 1851. She states, that two weeks ago, when in a state of perspiration, she took a bath in the open sea. The same evening she was attacked with rigors and other febrile symptoms; and on the next day there was dry cough, difficulty of breathing, and a sense of oppression in the chest. The cough has continued since, with more or less expectoration, but the febrile symptoms have abated.

*Pulmonary Signs.*—On percussion, there is no dulness anywhere. On auscultation, there is harshness of the inspiratory murmur anteriorly; and posteriorly and inferiorly, on the same side, coarse crepitation.

*Concomitant Symptoms.*—There is frequent cough, with slight muco-purulent expectoration; general debility; headach; soreness in the limbs; occasional palpitations of the heart, the sounds of which organ, however, are healthy. Pulse 62, full. Digestive and genito-urinary systems normal.

*Progress of the Case.*—Under the use of antimonials with opiates, followed by expectorants, the pulmonary symptoms rapidly diminished. On the 25th, the respiratory murmurs on the right side were healthy, and she was dismissed.

The second case is an illustration of chronic bronchitis,

where death occurred from the supervention of acute peritonitis: Its particulars are given with equal perspicuity and brevity.

The third case, headed "*Chronic Bronchitis; Emphysema; Acute Laryngitis*," has, as its chief attraction in the fact, that, for the cure of the laryngitis, the local application of a strong solution of the nitrate of silver was successfully employed.

In the clinical observations on these cases, we are informed: the first was evidently an uncomplicated case of acute bronchitis, which had nearly run its course before admission,—that acute bronchitis may be epidemic, and constitute what is called *influenza*,—that it may follow or precede a similar lesion in the lining membrane of the nasal passages, that is, *coryza*,—that frequent attacks of an acute nature frequently eventuate in emphysema,—that "bronchitis, therefore, is an affection which the judicious practitioner will do all in his power to check and prevent." The treatment for this formidable disease we shall give in the Professor's words:—

"To check the progress of an acute bronchitis or coryza, no remedy seems so good as taking a full dose of Morphia on the first, or, at the latest, second night on going to bed. In the morning, the patient should breakfast in bed, and keep himself warm at home during the next day. . . . Should, unfortunately, the disease progress, patience is, perhaps, the best remedy. But, if the bronchi become clogged, sudorifics and expectorants, especially ipecacuanha, will be useful; and a blister will sometimes dissipate any lingering trace of the disease."

In the second case, in which there was strong presumptive evidence that ventral or intestinal ulceration existed, the chief information we get of the treatment is contained in the following extract:—

"Her principal complaint, however, was the epigastric pain, which, notwithstanding the application of leeches, warm fomentations, opiates, and counter-irritants, continued to increase."

The third case, being scarcely more explicit, calls for no particular observation. We have sought in vain for even the faintest claim to commendation in these remarks, alike deficient in novelty or profundity. In treating of such a disease in an elementary manner, to have noticed each of its important bearings might have been impossible;—is, however, the omission of them altogether excusable? We confess our utter inability to discover from these remarks in what respect they have advanced our knowledge on that affection to which they allude, but of which they can scarcely be said to treat. If a

work in medicine can have one fault, which more closely than another approximates the inculcation of error, it is the imperfect teaching of truth. Of this latter, we may now most justly complain, and if we do not accuse the author of the former, it is not that we by any means consent to his problematical doctrines, but because we freely accord to him the same freedom in the warm advocacy of his favourite views, so long as they do not endanger life, as we reserve to ourselves in the expression of our critical opinions.

Professor Bennett's clinical observations on pneumonia next demand our scrutiny. The examples enumerated are of such a character as abound in the wards of every hospital and the case-books of most students, while the observations in reference to them are few and meagre. The occasional difficulties which arise in the diagnosis of pneumonia are illustrated by cases in which the nature of the complication preoccupied the attention and masked the symptoms indicative of that disease. In his objections to the old practice of bleeding Professor Bennett but reiterates what the late Professor Graves<sup>a</sup> laid down when he wrote—"I may be permitted to express my doubts whether pneumonia be a disease which demands the heroic use of the lancet," at the same time that he pointed out those cases in which venesection might be useful, and the method in which it should be performed. Dr. Stokes, in his work on Diseases of the Chest, had also expressed similar opinions. Professor Bennett thus writes:—

"I place my chief reliance in the treatment of pneumonia, when hepatization has taken place, on the combined use of tartar, emetic and opium, in large and frequently repeated doses."

While further we read—

"I have never yet been able to satisfy myself, that calomel favours the absorption of the exudation in cases of pneumonia; but, from the very coincident manner in which this remedy is employed by practitioners of great experience, it would be presumption in me to oppose its employment. On the contrary, whenever the exudation does not disappear in the usual and natural manner, I would recommend its use, although I am inclined to think, that, if the disease be properly managed from the beginning, such cases will be rare."

Whether are we to regard this avowal as a striking instance of magnanimity or weakness of mind, where human life is the stake to be lost or won? Professor Bennett does not believe

<sup>a</sup> Graves' Clinical Medicine, by Neligan, vol. ii. p. 42.



calomel, favours the absorption of the exudation in pneumonia, and yet he recommends it for such a purpose;—he has no confidence whatsoever in its exhibition, and yet he countenances its use. It is a happy thing for the recovery of his patients the Professor has in his complacency such a safety-valve for his indulgences that he is thus occasionally induced to fire at random, not knowing where a chance shot may hit. Has not Professor Bennett met with cases in which the antimonial treatment was altogether inadmissible? In cases of typhoid pneumonia, of which Dr. Stokes<sup>a</sup> thus writes, when contrasting the treatment by tartar emetic with that by mercury.—“The mercurial treatment is to be preferred from its greater safety, and in this disease, more than equal efficacy.” The longer pneumonia has lasted, the less likely is the less likely we are to derive benefit from tartar emetic, and consequently in most of the cases which are accompanied by decided hepatization, you observe that we prefer moderate but repeated doses of calomel, until the mouth is discoloured but not severely affected. To this we might add the following remark from the same authority in reference to the efficiency of this remedy:—“Now I believe every practical man is aware that mercury is one of the best remedies we can employ in many cases of acute and sub-acute bronchitis.” Opinions such as these, and of many others of high distinction, are not to be thought lightly of. Professor Bennett’s humility is not without its consolation, for, most assuredly, if in the administration of such a remedy he errs, he does so in the best possible company.

We are happily not again required to express our opinions respecting the author’s *Practical Lectures on Pulmonary Tuberculosis*. We have already in our last Number done so fully, and accorded to them that merit which a just regard for truth would permit; they are here presented to us in a much more limited form, and on their refusal we see no just reason to revoke that judgment, to it we accordingly refer. We shall not for the present proceed further with our critical analysis of this work, but reserve for a future occasion our review of the separate cases therein recorded, as also, of the chapter devoted to diseases of the heart. In conclusion, we may observe, it is ever to us a most ungrateful task to lightly estimate the labours of another:—could we on the present occasion have followed the dictates of mere personal inclination, we should have permitted Professor Bennett’s clinique to pass with a brief notice, for we cannot but regret that from such vast opportunities something

<sup>a</sup> *Op. cit.*, p. 344.

more worthy has not sprung. Great positions entail equal responsibilities. The Professor of the Institutes of Medicine and of Clinical Medicine in the University of Edinburgh being for the time identified with the world-wide renown of its School, stands forth in that light which many illustrious names reflect. The honour and reputation they have founded being intrusted to his anxious guardianship and fostering care, it behoves him more especially to rightly estimate that treasure it is his privilege to hold. From his clinical lectures is the profession to infer the tone and status of medical science as it exists in the University he represents. Every observation from an author occupying such a position carries in consequence a certain weight, being armed, as it were, with the authority of office; when therefore we are presented with the matured results of his continued observation, we are fully warranted in expecting something more than a few every-day accounts of disease, accompanied by such criticisms as those we have noticed, whose chief recommendation rests in their being within the comprehension of the most limited capacity. Contrast his lectures which we have reviewed with others on the same subject which have within the last few years emanated from the English, Continental, American, and Irish schools, and must it not at once be conceded, the information herein afforded is but as a drop in the great ocean of their truth?

*Anteckningar om de förnämsta Medicinska Skolorna uti Italien, Frankrike, Holland, och England.* Af PROF. C. SANTESSON. Hygiea, August and September, 1853. Stockholm: C. E. Fritze.

*Sketches of the principal Medical Schools in Italy, France, Holland, and England.* By PROFESSOR CARL SANTESSON.

WE hasten to fulfil the promise made in our last Number by giving a brief survey of the concluding portions of Professor Santesson's description of his medical tour. As we mentioned in our former notice, the numbers of the Hygiea we received while it was passing through the press contain the Professor's account of the medical schools of England, and of his visits to Scotland and Ireland.

The first in point both of antiquity and size of the medical schools of London is that attached under the denomination of "St. Bartholomew's College" to the hospital of the same name, the oldest institution in the English metropolis for the care of

the sick prior to the history and description of these establishments, the author enters at length, tracing the gradual development of the complete medical school at present existing therein; but, as information on these points is easily accessible to our readers, we shall with more profit pass to the consideration of his general remarks. The following comparison of the working of the voluntary system, if we may so term it, which obtains in England, with the effects of the State provision made in Sweden for medical instruction, appears to us worth of being quoted:—

It thus appears that the course of medical education in England is expensive, and it seems particularly so to those who are accustomed to get all instruction of that kind almost for nothing, for the fees for dissection and practical chemistry in this country are so small that they scarcely deserve mention. The cause of this is, evidently, that in Sweden the State supports the schools, while those in England are, as private institutions, self-supporting; in other words, they are dependent on the fees paid by the pupils. But if it is thus considerably more expensive to pass through the medical course of instruction in England, medical practice generally speaking, yields a proportionably greater income in that country than with us. The financial difference is thus in a great measure balanced, but a circumstance which most nearly concerns the schools deserves to be alluded to in connexion with this point, at least, in my opinion, it gives English medical teaching an advantage over ours, in which there is nothing of the kind. The circumstance I allude to is, that as in England the existence and stability of the schools depend principally on the fees received from the pupils, it must be the teachers' interest to use their utmost exertions to make the instruction as good and complete as possible, and thus to attract a great number of students to themselves. Hence arises a constant stimulus to labour zealously and indefatigably in science and for the maintenance of the school, an impulse which does not exist among us, and the want of which is not unfrequently attended with evident and serious consequences. A school in England in which one or more of the teachers should show indolence, indifference, or negligence in the discharge of their duties, must inevitably fail for want of pupils and consequent want of income. In Sweden, a teacher may, when he has once secured his office and his pay, take the matter as quietly and coolly as he pleases; he may do much, or little, or nothing; he may have the largest audience, or no hearers; he may slumber soundly enough without fear of being awoken or disturbed by the superin-

tendent committee; in any case he has his given reward, neither more nor less. It is true, we might suppose that the teachers' interest in their subject should be, at least with most of them, strong enough to prevent these evil consequences; but still the possibility of the contrary is admitted, and the reality is near enough at hand,—at least where youthful and warm zeal have disappeared with years, cares have accumulated, and oftentimes economic troubles compel the father of a family to devote his time and his abilities chiefly to a very different subject from that or those in which he is a teacher. We must not always judge so harshly, but we may always assert without injustice that the students and the teaching are what suffer earliest and most from such circumstances. Besides, matters can never be otherwise in a land where instruction is privileged and limited to a few public schools authorized by the Government. In England, the Government has left instruction itself free, but has retained the final right of trial, which it exercises by certain public boards of examiners,—an arrangement which seems to be the most natural, and, at the same time, the most advantageous."

The author, having passed in review the several medical schools in London, whether directly attached to an hospital or not, observes, that the most striking points connected with medical education in the United Kingdom are, the great number of licensing bodies, and the want of uniformity in medical instruction required by them. He also remarks, as a most singular inconsistency, that individuals who hold the same qualification from the same corporation should not have the same privileges, as is the case with the licentiates and extra-licentiates of the College of Physicians of London; and that the graduates of Oxford and Cambridge have no right to practise in the metropolis or within seven miles thereof, while they are entitled to do so beyond that circuit. He also points out a great defect which exists in the non-requirement by some of the corporations of proof of preliminary general education; "*Studia, quæ si non faciunt medicum, aptiorem tamen medicinæ faciunt*"—a department in which, he says, his fatherland is not deficient, as the preparatory examination required there might, on the contrary, serve as an example, and would be perfect were some addition made to it in the physical sciences; in other respects, he observes, it appears, if properly carried out, well adapted to answer its purpose:

"Another fault which has been found with the English system of examination is, that although it is received as a principle that teachers cannot be examiners except in subjects

distinct from that they lecture on; it nevertheless has happened that many members of the examining board have become, from age, indolence, or indifference, so stereotyped in their mode of examination, and in their questions, that both questions and answers are known beforehand, as in a catechism. This has of late years given rise to a peculiar occupation, previously unknown in England, but much more known and exercised on the Continent, and also with us, and which consists in a person in the quality of private teacher undertaking, for a certain and generally tolerably high fee, to indoctrinate the candidate in a very short time in what he needs to know in order to answer the questions of such and such examiners, and is so well approved, or possibly complimented, on his examination. How inimical to all real study, not to say to our aid and honesty, this so-called cramming system is, we know alas! from our own experience. In England, where it has obtained the name of the grinding system, it is more new-fashioned; but it was early exposed, and made the subject of severe disapprobation in numerous articles in the medical journals. It is principally in preparing for the Apothecaries' Hall that this discreditable fact has been observed, and there is reason to believe that the existence of this system, together with various other circumstances, will probably ere long give rise to a new and better plan of medical examination, and to the limitation of the excessive number of qualification-giving corporations."

As to the mode of instruction in the various schools, Professor Santesson expresses himself in the following terms:—"I cannot do otherwise than praise and recommend the plan adopted, especially in the so-called colleges, and which I have above more accurately described, as it is carried out at St. Bartholomew's. The daily intercourse between many of the teachers and the pupils, the free access, and ever-present opportunity the latter have of asking the advice of and of conversing with the former, meeting them as they do every day, and in many instances several times a day (in the lecture room, the museum, the library, the reading room, or at the dinner-table), and this in a manner which shows that the teacher is like a father or an elder brother to the class, kindness, sympathy, and openness on the one side, esteem and confidence on the other, all contribute to produce a mutual co-operation, as well between teachers and pupils, as between the latter among themselves; a system of reciprocal instruction on a great scale, which cannot do otherwise than exercise a beneficial influence both on their scientific and moral education. The adoption of examinations and oral discussions, not merely at the clinics,

but likewise in connexion with the public lectures (once every, or every second, week, according to the nature of the subject), I consider to be good, and worthy of imitation. How different is not all this from what we generally find to obtain at most of the continental medical schools, both in France and at many places in Germany! How strange to one another are there, the teachers and the pupils,—the former most frequently neither know the latter, by name nor by appearance; have seldom, in some instances never, exchanged a word with them, never addressed them otherwise than in a body and officially from the chair. The pupil sees in the teacher a person with whom he will take care to have as little as possible to do, and from whom, particularly at the examination, he will endeavour to escape as cheaply as he can. If he stand in need of advice or explanation on any subject, the teacher is often the very last he has recourse to, if he applies to him at all. To all this the English schools present the finest and happiest contrast I have found in any country.

“A stranger and guest at such a school in England should recollect not to be precipitate in his judgment on persons and circumstances. It requires time, and often perseverance, to fall in with the ways of both. This is especially true if he present himself without an introduction, and, so to speak, breaks his own way. It is, above all, necessary to be able to use the language with some freedom. In few countries ought a good letter of introduction to be of more value than in England; it saves time, and renders business pleasant. The fact is, that an Englishman, generally speaking, when a stranger addresses him, must see and examine well with whom he has to do, before he pays him closer attention, and, still more, before he shares with him his own knowledge and experience. He is kind, he is ready to oblige, but is always more or less distant, until his visitor has made some little acquaintance with him, and thus shown what he may possess calculated to awaken his sympathy and interest. Yet it is possible for a stranger to work his own way, if he has anything to communicate; but, as I have observed, it requires more time and opportunity for conversation than is necessary to a person provided with a few lines, or even a visiting card, from a friend or acquaintance. Another circumstance which should likewise prevent a stranger from passing a categorical judgment from a first impression (which is not always the most favourable) is, that the plan and mode of communicating instruction he finds here are so unlike what we are accustomed to in other countries, that to many they seem strange and almost school-like. However,

wait a little; see the result, and judge accordingly. What I can say from my own experience is, that the professional instruction in certain of the medical schools in England, and in some of the allied ones in Scotland and Ireland, is the best I have anywhere found."

The author next passes to Scotland, and afterwards to Ireland. His observations on the clinical teaching in Dublin are highly eulogistic, and he speaks in grateful terms of his reception in that city. We think it, however, more becoming, as Irish journalists, to rest content with the extracts we have given from his observations on the medical institutions of Great Britain and Ireland at large, than to quote the flattering testimony he has borne to the labours of the profession in this particular portion of the United Kingdom.

*Remarks on the Examination of Recruits, intended for the use of young Medical Officers on entering the Army.* By H. H. MASSEY, A. B., M. B., 4th Light Dragoons. London: Churchill. 1854. 8vo, pp. 131.

IN the title-page of this work, Dr. Massey quotes the following words of the Duke of Wellington,—words which should be borne in mind by every medical officer intrusted with the examination of recruits:—

"It must be always remembered," says this illustrious commander, "that the power of the greatest armies depends upon what the individual soldier is capable of doing and bearing." This is, indeed, the point to be regarded, for unless the materiel of which any body is composed be in its integral particles sound and of good quality, put what polish or appearance you will upon the surface, the base will still remain unsound, and unfit for hard work or rough usage. To an army the same may be applied, and here, as the selection or rejection of that base rests with the medical officer himself, the greatest discretion is necessary in passing recruits into the service, and the military surgeon or civilian intrusted with this duty should, before undertaking it, make himself, as far as possible, acquainted with the points essential in the soldier.

"The best instructor," our author observes, "is practical experience, but as this cannot be available for all, the only other source of information is the published experience of others." Dr. Massey has taken up the consideration of this subject at an opportune period, for, judging from the state of Europe at the present moment, we may well infer that we are

beginning a contest which will not soon be over, and if this be so, then the calls upon the country for recruits to fill the vacancies in the ranks, and to augment our army, will be far greater than they have been for many years. We are glad, therefore, that our author has thus devoted his time; and though we cannot say that the style of composition, or the subject matter of the volume, is altogether free from fault, or brought forward as clearly and concisely as they might have been, still we feel pleasure in noticing the work, and introducing it to our readers.

These "Remarks" are intended as a practical commentary on the War Office "Instructions" for the examination of recruits, and, as such, follow the order therein set down, and embrace the consideration, firstly, of the qualifications necessary for the soldier; and secondly, the disabilities which render a man unfitted for the service.

Under the former are included age, physical development, and physical proportion, with general remarks on selection. Under the latter, special affections of the senses, the head, the thorax, the abdomen, and extremities.

We cannot, in a cursory notice of the subject, do more than allude to one or two of these points, and we select those which we deem to be of the most vital importance,—viz., age and development.

As regards the first, we think our author has gone too far in advocating early enlistment. He says—

"As the fatigue of marching was to the infantry soldier one of his most debilitating duties in youth, it was a material objection to early enlistment; the baneful effect of sustaining too early in life the weight and drag of the knapsack on the chest on long marches, is now in a great measure obviated by the very general system of transporting soldiers on home service by railway. Night duty on guard is enumerated as an objection to young men's enlistment, since the enervating effects of want of rest in youth are fully admitted, and always deserve the attention of those who have the power of interference. In time of peace on home service, however, this objection seems over-estimated. Soldiers in some garrisons are occasionally hard worked; but this is, I believe, usually accidental, and is certainly the exception. The improvements in discipline, the judicious restraints, the habits of obedience, cleanliness, and systems, at the present day inculcated, are more readily received and permanently retained in young minds than in those of older growth, which have possibly already acquired habits inconsistent with the duties of a soldier. The much greater prevalence of temperance than formerly has likewise diminished a fearful source of temptation to lads too easily led into the insidious vice of intoxication.



Depression of spirits, or occasionally even recklessness, said at one time to be induced by the hopeless prospect of being bound for twenty-one and twenty-five years' service, has now been relieved by the power of enlistment for shorter periods."

All this is very true, and very good if it applied to the question of enlisting *young men*, or *fully-made men*; but the real point at issue is (when speaking of early recruiting) the question of enlisting *boys*, for, let them call themselves eighteen years of age, or what they will, the majority taken for the infantry are by far too young; and our author, in the passage just quoted, gives too unqualified a preference for such. Subsequently, when speaking of scrofula, he dwells forcibly upon its devastating effects in the army, and this, we feel certain, would not be the case to the same extent, were fewer of these young lads taken. Numbers do not constitute strength. A regiment with 700 well selected is more efficient than another with 750 doubtful men.

Were our author acting for himself, we do not believe he would fall into the same error of passing these boy recruits, for his remarks upon development, which follow, are both sound and good. It is as offering an opinion for the guidance of others who have not yet learned the amount of physical force requisite in the soldier to enable him to withstand the hardships of a military life, that we object.

We would prefer the tyro's being impressed with the following passage as that on which to ground his judgment as to the admission of a recruit:—

"The infantry soldier, from the nature of his employment, comprises a combination of characteristics which must always be recollected as necessary, and not merely desirable: he ought to be compact and strong." "The want of muscular power ought always, without modification, to be a sufficient warrant to cause his rejection."

This muscular power is not found in growing lads. It is a state that will, perchance, show itself, if unrestrained they are permitted to follow the plough for a couple of years, but will be prevented from development by a barrack life.

We must here close our notice of Mr. Massey's book, with the wish that its circulation may be general amongst the young medical officers of the army, as we feel assured they will derive information from its perusal.

*Traité de Chimie Pathologique, appliquée à la Médecine pratique.*

Par M. ALF. BECQUEREL et M. le DOCTEUR M.-A. RODIER.

Paris: Germer Baillière. 1854. 8vo. pp. 608.

THAT the study of chemical pathology has made very considerable progress even within the last few years, the valuable labours of Simon, L'Heritier, and Lehmann, on the Continent, as well as those of Bence Jones, Golding Bird, Prout, Garrod, and others in this country, afford abundant evidence; yet the field of investigation which the physiological and pathological conditions of the vital fluids lay open to the researches of those disposed to bestow a further amount of labour and industry thereon, appears to promise results of no inconsiderable value to the practical physician. About nine years have elapsed since MM. Becquerel and Rodier published a *brochure* "on the composition of the blood in health and disease," the principal substance of which is now reproduced in the second chapter of the work before us, which treats at very great length of the chemical relations of this important fluid.

The first or introductory chapter is short, and contains an account of the two fluids which concur in the formation of the blood,—namely, lymph and chyle. Of the former, only three analyses are given, and the authors conclude their observations on this part of the subject by candidly avowing that the physiological and pathological history of this fluid, so far at least as it rests on positive physical and chemical data, and not on hypotheses more or less absurd, remains to be made out. Of chyle there is but one analysis,—namely, that made by Dr. Rees, of fluid taken from the thoracic duct of a man recently executed.

Prefixed to the second chapter is an elaborate historical abstract of the various opinions regarding the importance of the blood which have been entertained from the remotest antiquity down to our own time. The first epoch, which embraces a long range of years, is rather the history of the hypotheses which successively swayed the minds of the learned than that of positive researches or accurate observations. These hypotheses, which have experienced almost as many variations as there have been different systems in medicine, have yet in their turn enjoyed great favour; in fact, they constituted the different systems of humorism. "Although long since fallen into just oblivion," say the authors, "we believe we ought not to pass them in complete silence, and we shall try to present a succinct *resumé* of them," &c. The second phase of the history of the blood's alteration comprehends the

earliest positive researches which have been made into the nature of this fluid. These researches are qualitative analyses, and they furnish numerous most interesting documents to physiological and pathological chemistry. The third and last phase comprehends the exposition of the quantitative analysis of the principal elements of the blood. It is only at the date of this epoch that the knowledge of the alterations which the blood undergoes has afforded any real assistance to physiology and pathology, and has cast any valuable light on questions of pathogenic import.

The process which our authors have adopted in their analysis of blood being of a complex nature, they have divided it into three series of operations: the object of the first is to furnish the density of the blood and that of the serum, the weight of the fibrine, globules, and solid matters of the serum collectively. The second series of operations should give the weight of extractive matters and of fatty matter. The third determines the weight of iron and that of the different inorganic, saline, or other principles which are contained in the blood.

The precautions necessary to be observed in each step of the analysis are detailed most minutely, but these, as well as the general description of the operations, do not admit of condensation. We may, however, notice some of the general results.

1. The affinity for water which the proximate principles of blood possess is very considerable, and this fact, in addition to their ready decomposition through an incautious exposure to too elevated a temperature, presents a considerable obstacle to the accurate determination of the albuminous matters contained in the blood; for, should the desiccation have been accomplished ever so effectually and carefully, the dried mass commences at once to reabsorb water from the atmosphere, and therefore should be weighed immediately while yet warm, &c. This deliquescent property the authors are disposed from their experiments to attribute to the presence of alkaline salts, uncombined soda, and soluble extractive matters.

2. When blood, freshly drawn, is not protected from atmospheric contact, a very appreciable quantity of water is vaporized, the amount depending principally on the extent of exposed surface, the temperature of the apartment, and the hygrometric state of the circumambient air. In hot summer weather, blood received into broad vessels becomes reduced by evaporation to one-third of its original volume. The time required to produce so considerable a diminution in bulk is

not mentioned. The authors recommend the use of deep and narrow vessels, and have given the results of three experiments made at a temperature of  $61^{\circ}$  to  $62^{\circ}$  F. in a moderately moist state of atmosphere. The mean of the three experiments represents the weight of the blood when first drawn =  $16.867$ , and the loss by evaporation after twenty-four hours =  $1.926$ . The containing vessel had a surface of  $27$  square centimetres. At a temperature of  $50^{\circ}$  F. two experiments were made, and the blood in the vessels had a superficial extent of  $60$  square centimetres. The mean result of these two is: weight of blood freshly drawn, =  $47.875$ ; loss by evaporation in twenty-four hours =  $4.125$ . In order, therefore, to avoid this spontaneous evaporation, by which the more solid parts are concentrated, they recommend not only that the containing vessels be of the shape already mentioned, but that the air be hermetically excluded.

3. With respect to the density of the serum, this generally expresses the direct relation between the water and the solid matters therein contained; but this is not invariably the case, further experiments having proved that when there is an excess of extractive, saline and fatty matters collectively, compared with the amount of albumen, the density maintains a pretty constant ratio, but is always higher than when the albumen is in excess and the other matters are in comparatively small quantity. In some rare cases the presence of fatty matter alone in excess tends to lower the density still further.

4. When an individual is bled, provided this be not done rapidly, the different stages of the same bleeding furnish specimens of fluid which have different densities, the latter portions being less rich in solid matters than the earlier; but this difference is hardly perceptible till the bleeding shall have been carried to a certain extent; the impoverishment, however, is continuous and progressive. MM. Prevost and Dumas have long since made the same observation, and have explained the impoverishment of the blood in this way: "When we deprive a small animal of a notable quantity of blood, the veins rapidly absorb, at the expense of the rest of the system, an amount of liquid proportional and perhaps equivalent to that which has been lost to the circulating mass; whence it follows that the aggregate bulk of the particles appears to diminish in a given quantity of blood." In order, therefore, to represent by an analysis of the blood the condition of the animal from which it has been drawn, the first portion should be chosen.

The composition of the serum is sensibly affected by anterior bleedings; abstinence and the persistence of the disease

which necessitated the abstraction have also a considerable influence in rendering the blood less dense. The result of the alteration of the serum of the blood under the influence of two bleedings made at short intervals in twenty-seven individuals, who were all similarly affected, is given in a tabular form, to which, however, we must refer our readers.

The variations which the blood's composition undergoes in the various pathological states of the system are considered at great length and with considerable minuteness; the excess or deficiency of any constituent being established by a comparison with a model or standard of health previously deduced from a careful analysis of the blood of twenty-two individuals in health. There is some difficulty in constructing a formula which will represent in a general manner the composition of the blood in a healthy physiological state, due consideration being had for the thousand influences which tend to modify the results. According to Prevost and Dumas, who were the first to publish an analysis of the mean composition of the blood, this fluid contains in 1000 parts, 127 of globules, 8 of fibrine, 80 of solids of the serum, 790 of water. This formula, modified by M. Denis first, and afterwards by M. Lecanu, was nevertheless adopted by MM. Andral and Gavarret, and used by them as the *point de depart* to which they invariably referred in establishing general principles respecting alterations of the blood. According to the experiments of our authors, healthy blood contains 135 of globules, 2.5 fibrine, 80.35 solid matters of the serum, and 781.6 water, per 1000 parts.

In each great division of diseases the part played by the blood is made the subject of close investigation, and appended to the history of each is an exposition of the practical consequences to which the knowledge hence derived may conduce.

This chapter on the blood is so very long that to give even a *résumé* of the conclusions arrived at regarding the blood in the various individual diseases would occupy a considerable space; we shall therefore merely transcribe our author's remarks on typhus fever, and then pass on to the other parts of the work. This section commences by stating that, "in 1847 M. Henri Guenaud de Mussy and M. Rodier were commissioned by the French Government to enter upon an investigation of the typhus fever, which at this time was committing great ravages in Ireland. The former took charge of the pathological department, the latter was occupied with an analysis of the blood." After a polite acknowledgment of the reception they met with, and the facilities which were afforded them

in this country of pursuing their investigations both in the hospital and in the laboratory, they continue: "A complete work on this disease was to have been published, but circumstances have decided otherwise, and it is probable that this work will never see the light; one of us, however, has preserved the analyses of the blood of six patients affected with typhus fever, which we believe we ought to publish here in the hope that they may be of some use in the history of this disease.

## ANALYSIS OF 1000 GRAMMES OF BLOOD.

	1. Man.	2. Man.	3. Man.	4. Man.	5. Woman.	6. Woman.
Density of the blood, .	1055.5	1047.0	1050.9	1042.1	1051.2	1041.2
Globules, . . . . .	146.5	113.5	138.1	97.2	126.8	95.6
Solid parts of the serum,	75.4	71.1	60.1	72.0	70.0	71.7
Fibrine, . . . . .	2.3	1.2	2.8	3.9	2.5	2.1
Water, . . . . .	755.8	814.2	799.0	826.9	800.7	880.6

## ANALYSIS OF 1000 GRAMMES OF SERUM.

	1 Man.	2. Man.	3. Man.	4. Man.	5. Woman.	6. Woman.
Density of the serum, .	1022.1	1021.1	1017.5	1020.0	1024.1	1020.0
Solid parts, . . . . .	91.8	80.8	69.8	80.0	82.6	79.2
Water, . . . . .	908.2	919.2	930.2	920.0	917.4	920.8

"It should be observed that these analyses were made previous to the period when the application of the polariscope to the study of albumen would have permitted a more exact appreciation of this latter element.

"The following conclusions may be drawn from these grave cases:—

"The *density of the blood* is, in general, diminished in a sensible degree.

"The *globules* in normal proportion in two of the men have been considerably below the average in two others; they have exhibited corresponding diminutions in one of the women.

"These facts being observed, we should examine into these deficiencies in the anterior state, the nature of the food, and particularly the anemic condition which pre-existed, the above modification of the globules not being altogether due to the disease itself.

"The *fibrine* was found either in normal proportions or

occupying limits inferior to the physiological state or in diminished quantity; this tendency to diminution, therefore, is a fact worthy of notice.

"The *density of the serum* is, in general, remarkably diminished; this diminution is, probably, the effect of the diet and the disease combined: it is, however, much more considerable in one case than in the others."

The third chapter is devoted to an examination of the products of secretion furnished by the conglomerate glands. In this the saliva, bile, pancreatic fluid, the renal, spermatic, lacrimal, and lachrymal secretions, are successively examined.

In the fourth chapter the authors treat of the secretions of the mucous membranes, serous membranes, and skin. All the products of secretion from the surfaces are passed under careful review in their physiological as well as their pathological relations.

The fifth chapter exhibits the comparatively few results which science possesses with regard to the normal composition of the tissues and the pathological alterations which they are capable of undergoing. This chapter is rather an exposition of the *desiderata* of science in this respect than an account of the results which have accrued thereto.

The sixth and final chapter treats of the organic products of new formation, their physical relations, and chemical properties,—pus, tubercle, and cancer.

During the whole course of this work the authors appear not to have lost sight of the fact that investigations of this kind should possess a practical interest for the physician. The state of knowledge at present regarding the chemical constitution of the fluids, tissues, and organs, is represented in a manner sufficiently concise for purposes of reference, and at the same time with a degree of completeness that reflects the highest credit on the zeal and industry of MM. Becquerel and Rodier.

In fine, the volume before us is another of those highly valuable books for which we owe so much to the medical school of Paris; constituting a direct application of science to the practice of medicine, and thus converting the labours of the analytical chemist to their proper channel, so far as regards our profession and its objects. The low price at which it is published, and the facility which, from our intimate connexions with the French, their books may now be procured, fain make us hope that this, one of the most recent and best works on pathological chemistry, will obtain an extensive circulation in the British Islands.

*Beiträge zur Lehre von den Knochenbrüchen.* Von ALBRECHT THEODOR MIDDELDORF, Doctor, der Medicin und Chirurgie; Praktischem Arzt; Wundarzt und Geburtshelfer; Docenten der Chirurgie an der Universität Breslau; Wundarzt am Hospital zu Allerheiligen; Mitglied Gelehrter Gesellschaften zu Breslau, Erlangen, Magdeburg, Paris.

*Contributions to the Theory of Fractures of Bones.* By ALBRECHT THEODOR MIDDELDORF, Doctor of Medicine and Surgery; Teacher of Surgery at the University of Breslau; &c. With five lithographed Plates. Breslau: Trewendt and Granier. 1853. 4to, pp. 150.

DR. MIDDELDORF'S work is divided into two parts—the first devoted to the consideration of fractures in general; the second, to that of individual or special fractures. The entire is derived principally from his own experience, based upon some hundreds of cases, of which he observed and accurately noted more than three hundred in the surgical section of the Hospital of All Saints, which was under the direction of the late Chief-Surgeon Alter, and, since 1850, under that of Professor Remer. The author states that “the unsurpassed works of an Astley Cooper, Boyer, Dupuytren, Malgaigne, R. W. Smith, &c., have stood by his side as faithful assistants in the laborious but certain path of seeking information at the patient's bedside, and have expounded and illustrated what he has himself witnessed.” The materials at his command were so abundant, that almost all, even the rarer fractures, have come under his observation.

The volume commences with a “statistical introduction,” from which we may cull one or two interesting results; thus it appears that in the city of Breslau, the population of which, at the time of the author's observations, amounted to 106,000, exclusive of military, 167 patients, suffering from fractures, were treated during the three years over which these observations extended, viz., in 1849, 54; in 1850, 65; and in 1851, 48; giving a yearly average of  $55\frac{2}{3}$ , and a monthly average of  $4\frac{2}{3}$ . The proportion of cases of fracture to the population was, therefore, in 1849, 1 to 1963; in 1850, 1 to 1630; and in 1851, 1 to 2208. During the same period, there were admitted into hospital, in 1849, 5829 patients from all causes (or excluding cases of cholera, 4852); in 1850, 4707; and in 1851, 4495 individuals; giving a proportion of cases of fracture to patients from all causes, in 1849, of 1 to 107·9 (or, excluding cholera, of 1 to 89·852); in 1850, of 1 to 72·4; in 1851, of 1 to 92·8. But if this investigation be confined to the surgical



division of the hospital, the result is, that in 1849 one patient out of every 26 surgical cases laboured under fracture; in 1850, the proportion was 1 to 24; and in 1851, 1 to 27; from which it would appear that, on an average, every twenty-fifth surgical case is one of fracture.

The author gives similar statistics showing the influence of age, sex, season of the year, rank, and occupation, and of the predisposition of individual bones of the skeleton in the production of fractures. As the influence of many of these depends, however, on particular circumstances, which must vary greatly in particular localities, we shall not enter into any particular account of them, but shall only remark, in passing, that, of 179 fractures, 8 belonged to the bones of the head; 77 to those of the upper extremities; 88 to those of the trunk; and 56 to the lower extremities.

The author gives copious and well-arranged Tables, showing at a glance the details of the 167 cases of fracture already mentioned, under the heads (besides the columns of reference to the dates and books of the hospital) of name, occupation, age, duration of stay in hospital, cause, nature of the fracture, complications, treatment, result, duration of treatment, and observations.

Having disposed of the *etiology* of fractures, Dr. Middeldorf proceeds to consider the several varieties of these accidents. In speaking of them he remarks that, "besides the fissures which occurred in fourteen cases of fracture of the skull, not included in the Tables, I have hitherto observed only one instance of imperfect or partial fracture. This was an infraction of the middle of the right ulna. The patient, a boy of fourteen years of age, had met with a fall, and, though suffering pain, continued to work for eight days, when, in giving a violent blow with a very heavy smith's hammer, he suddenly experienced a cracking sensation, and became unable to work. On subsequent admission into hospital, the bone was bent towards the part of the forearm occupied by the extensors; the callus was still, however, capable of being easily placed in its proper position. We may here with great probability assume that an infraction had first occurred, which was converted into a fracture, partly by muscular action, and partly by the shock of the blow. Such accidents may indeed occur much more frequently in the ribs, but here they may very easily escape recognition, as we cannot as yet assume that a deep-seated pain and inflexion, following the application of violence, but without crepitation, and with inadmissibility of displacement, are with any certainty diagnostic of them. There are fractures

of the forearm, especially in children, which may easily mislead the unpractised observer to suppose that an infraction has taken place, in which we find the limb bent at an angle, capable of being raised without hanging loose, and manifesting a certain coherence as if there was merely a flaw in the bone, for we can perceive a motion which diminishes the angle; in most cases we very easily perceive a motion which increases the angle, but only with effort, and accompanied by a plainly audible rustling and commotion. Now if the latter motion be first made, it is supposed that a cohesion, such as exists in infraction, is present, but these are phenomena which are simply founded on the catching of the dentated fractured edges in one another."

We entirely agree with the author that the signs which he has mentioned are not, by any means, diagnostic of such a lesion as imperfect or partial fracture. We have always been of opinion (and we have examined recent specimens which confirmed our belief), that in these cases the bone retained its curved form, not in consequence of the osseous fibres upon the side of the concavity remaining unbroken, but from their becoming mutually impacted, and assuming a dentated or suture-like arrangement. A few years ago, Professor R. W. Smith laid before the Pathological Society of Dublin a specimen of a recent injury of the fibula, which had been supposed, during life, to have been an instance of incomplete fracture of its lower extremity; but an accurate examination of the preparation showed that, although the bone still retained its curved form (even after having been deprived of its periosteum by maceration), the fracture was complete, the osseous fibres, upon the side of the concavity of the curve, being mutually impacted so as to form an extremely firm suture.

The author believes that he has twice seen separation of the epiphysis, proceeding from direct causes, in the humerus of boys of fourteen and fifteen years of age. "The character of the crepitation, which was not that of rough, hard, spongy bones, but was a gliding one, as well as the other known signs, especially, in this case, the ease with which the sharp edge of the caput humeri could be felt, over which the vessels and nerves ran stretched like strings, and were thus compressed, producing a sensation of formication, the deviation of the direction of the axis of the shaft of the humerus, &c., made the diagnosis, which fortunately we had not an opportunity of confirming by dissection, very probable."

The following section is occupied with the symptomatology of fractures in general; the next with the consideration

of the diagnosis. The author concludes his review of the latter subject with some observations on the use of the acupuncture needle as a subcutaneous probe for the examination of a fracture. We shall not, however, at present follow him in his remarks upon this subject, as he proposes to investigate, it more fully hereafter in a "Treatise on Examination with the Needle."

The remaining sections of the first part are devoted to the prognosis, the course and results, and the treatment of fractures in general. In the second or "Special Part" of his work the author treats of individual fractures, which he arranges under the four principal heads of fractures of the bones of the face, fractures of the bones of the trunk, fractures of the bones of the upper extremities, and fractures of the bones of the lower extremities.

The author describes with great minuteness the construction of a complicated double inclined plane for fractures of the thigh, capable of being employed also for keeping the limbs suspended, and designed especially for the use of public institutions; but as it would be difficult to follow his description without reference to the figures with which it is accompanied, we must on this subject refer our readers to the work itself. The lithographs which illustrate this and the other apparatus described in the course of the Treatise are admirably executed and highly explanatory, and we should be guilty of an omission did we fail to notice the excellent style in which the volume itself is brought out, being beautifully printed on most excellent paper, recommendations which do not always apply to continental works.

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*On Fatty Degeneration.* By the late W. T. BARLOW, F.R.C.S.  
London: John Churchill, 1853. 12mo, pp. 92.

THERE are few subjects of greater interest to the practical physician than that of which the volume before us professes to treat. The vital pathologist finds in the consideration of fatty degeneration ample material for reflection and study, since, being not unfrequently silent in its working and unsuspected in its progress, it may occur that the first notable indication of the change which has been effected, be evidenced either through its fatal termination, or under such circumstances as place at defiance the resources of medicine.

It cannot be denied that of late years extraordinary advances in our means of physical diagnosis have been perfected.

We are now, in microscopic examinations, enabled to confidently recognise those particular characteristics which indicate the very earliest stages of material change. The researches of the microscopist and chemist have, as it were, unfolded the whole map of morbid action, wherein we may trace the gradual progress of disease, and declare not only the nature of those changes already accomplished, but even premise those further alterations, which, pending the continuance of such action, would undoubtedly occur.

Having attained so much of certainty in our comprehension of life as evidenced by its effects on matter, let us inquire—Do we possess the same capability of inferring the nature of changes progressing in matter, from the concurrent vital manifestations? Or, in other words—Are we competent in the living structure, to pronounce the significance of each particular symptom with equal certainty as we can in the dead body declare the nature of any special appearance? Happily for mankind, observation of disease affords a negative reply, since the whole category of latent affections, as well as the progress of many visible alterations, declare, physical changes may progress without producing appreciable derangement of function until such time as the structures they involve prove inadequate to the purposes of the economy. Conditions are detected after death which had never been suspected during life, and symptoms during life exist inexplicable by post-mortem examination. The human organism is thus proved to possess a power of vital accommodation, by which the action of its structures is maintained though the elements entering into their constitution be materially disarranged. Were it otherwise, existence would be dependent on endless contingencies, since disease and death should be identified with each other.

We admit that this latency of many diseases is a principal source of their fatality. If we be asked—Is the fact that morbid changes may attain a most formidable extent previous to their discovery, to be regarded as a proof of the inaccuracy or incompetency of medicine? we reply, no more than our incapability of explaining many visible phenomena argues the incorrectness or insufficiency of the natural sciences. In the contemplation of nature there are many sensible operations which we must be content to study through their effects, even though in our observation of disease those effects imply the destruction of powers whose perfection constitutes the duty of the physician. Such a question involves not only our just estimation of the relation which the material structures hold to each other, but also our knowledge of how far these separate structures

contribute to the essential purposes of our being, conjoined with our appreciation of that general pervading influence which insensibly guides and directs the whole, each tending to prove that it is not in the narrowness of science but the vastness of life—not in the limited character of material changes, but the unlimited and variable nature of immaterial influences—the answer to such an inquiry rests.

We have already premised that microscopy and animal chemistry have enabled us to measure with extraordinary precision the results of aberrant vital force, and in advancing our knowledge respecting those transmutations of organic elements which occur in the living body, have thus imparted to us in many affections increased confidence in our prognosis and treatment; yet, inasmuch as the nature of this change we are considering does not admit of such demonstration except through the analysis of its ultimate effects, whose presence may remain either undetected or beyond our reach, until the extent of its development argues a confirmed condition of the system, we are the more fully impressed with the necessity of closely studying its vital as well as cadaveric pathology, since it is in our estimation of their mutual relations we can alone hope to solve the difficult, we might almost add, the anomalous problems, affections of this character not unfrequently present.

These opinions have been strengthened by our study of Dr. Barlow's work, which, replete with the views of many of the best and most recent authorities, has afforded us both profit and pleasure in its perusal.

Repudiating the supposition that microscopical appearances are in themselves sufficient to explain the nature of many changes in their immeasurable relations to decay and death, Dr. Barlow proceeds to direct particular attention to the association of muscular atrophy with muscular degeneration, and impresses the true signification of the former term, which he regards as implying not alone an obvious wasting of the affected tissue, but also a deficiency of its perfect nourishment. On the latter view it is quite explicable that real atrophy and seeming hypertrophy of a part may coexist, as is exemplified by hearts which are at once fatty and enlarged, showing increased bulk without corresponding power. As the causes of atrophy and degeneration are believed by the author to be identical, both blending inextricably and forming very often descending steps of one downward course, and as it seems impossible to conceive how any part can ever be transformed into a lower material without first suffering an impairment of nutrition, Dr. Barlow suggests that in the due consideration of the latter the

rational study of the former rests, and accordingly proposes for our inquiry some of the principal causes which conduce to such an end, those causes admitting of being ranged under one of the following heads:—1st. A wrong or defective state and composition of the blood. 2nd. An insufficient supply of blood. 3rd. A deranged or obstructed influence of the nervous system. 4th. An imperfect, unhealthy, or declining state of the parts to be nourished. These conditions, be it observed, being in every respect the reverse of those which Mr. Paget has specified as most important in order to the completion of perfect nutrition.

In corroboration of the first proposition, the assertion of Harvey, that the blood is “the cause of youth and old age,”—the observations of Simon respecting the relations of the blood corpuscles to the process of nutrition in different periods of life,—the researches of Mr. Canton, establishing the true nature of the *arcus senilis*,—are considered as together confirming the author's views;—that closely associated with changes in this fluid is that material perfection and vital energy, whose declension and decay has been so ably described by Sir H. Hallford as being symptomatic of the “*climacteric disease*.” Notwithstanding Sir Henry's opinion that “a disease rather than a mere declension of strength, and decay of natural powers,” is indicated by this “*climacteric*” condition, Dr. Barlow still believes that it may be in many instances attributed to the form of degeneration we are considering, to which, under such circumstances, he observes: “we can hardly affix the term abnormal or morbid.” Dr. Marshall Hall's views on “the decline of the vital powers in old age,” and the symptoms he sets forward as indicating the same, when compared with those of the fatty heart, as stated by Dr. Quain, appear so perfectly analogous, that Dr. Barlow is led to believe in their close identification with each other, while the failure of function which degeneration produces, when contrasted with those temporary disturbances consequent on chlorosis and other affections of the blood, are regarded as tending to further establish the great practical inference that this abnormal condition, and the natural decay of an organ, though admitting of widely different explanations for their immediate predisposing causes, may in their essential nature be considered as identical, both indicating beyond question, impairment of nutrition.

The ravages of disease, and the progress of time, may in their operations anticipate each other. We find this special form of degeneration is not confined to any particular age, but is to be met with, either supervening on other affections, and

thus in them originating the most dangerous complications, or itself laying the foundation of affections, usually, we might almost add, necessarily, of a fatal character.

The observations of M. Louis, M. Bizot, and Dr. Ormerod, respecting the association of the fatty heart with phthisis,—of M. Louis, Dr. Latham, and Dr. Stokes, upon the relation of the softened heart to continued fever,—while establishing the truth of the foregoing remarks, are considered as further illustrative of the author's views:—that defective nutrition may lead to degeneration as well as softening of the tissues. Having noticed that such a complication in phthisis may offer one explanation of those cases of sudden death which sometimes occur in that disease, we read the following:—

“But how are we to tell whether this change of structure of the heart, supposing it to be detected after death, has preceded the fever, or occurred during its course?”

In reply, we may be permitted to refer our readers to the descriptions of both Louis and Stokes, who have with faithfulness and perspicuity detailed what we may term the specific appearance of the fever heart, the latter of whom, in his original researches on this important subject, published in the pages of this Journal many years since, particularized such conditions as, to the attentive observer, could scarcely fail to be sufficiently diagnostic of the post-mortem appearance in question, while, at the same time, he laid down such directions for its recognition during life, as render it scarcely possible its presence, if suspected, could remain undiscovered.

The occurrence of typhus fever in a patient whose heart was, previous to its accession, in a debilitated condition, presents one of the most formidable combinations of disease with which we are acquainted; the importance of whose recognition, we believe, cannot be too highly estimated, since in treatment it affords additional confidence in the early and free use of stimulants, while in prognosis it imparts greater caution, as from the coexistence of two causes, each adequate to place the vital powers in abeyance, a protracted and dangerous illness, or at the best, a tedious convalescence, may be anticipated. We cannot lay down any physical signs which might be considered as characteristic of this compound condition, excepting those already given by Dr. Stokes as indicative of typhoid weakness, whose earlier manifestation and more decided development, when compared with the previous history and concurrent condition, might lead us to infer such a special state.

The fact fully and clearly illustrated by Dr. Quain, that

obstruction of the coronary artery may lead to local fatty degeneration of the heart—the connexion between softening of the brain and narrowing of the arteries supplying the affected part—the atrophy and decay which, generally speaking, follow arrestations or diminutions of the current of blood, as observed by Mr. Simon to occur in the kidney, consequent on the obstruction of a small artery, are considered as sufficient proofs:—that an inadequate supply of appropriate blood must be also regarded as one of the principal causes of this change. However, we may, from special circumstances, be enabled to speak of the effects of such a cause on any particular structure, it is difficult to form an estimate of the general influence of this uncomplicated condition, since the questions of simple deficiency and morbid changes of the blood are to a great extent inseparable:—the association of anemia with spanemia, or the coexistence of deficiency and depravity of blood, being fully confirmed by Mr. Simon's analysis of that fluid in *melæna*, and M. Andral's investigations in anemia, the one showing the deficiency of fibrine, the other, the diminution in the proportion of the blood corpuscles,—which conditions, according to Dr. Ormerod, were associated with the most marked degeneration of the heart.

That the occlusion of the minute vessels of a part may be the consequence and not the cause of the locally developed affection, Dr. Barlow considers the condition of the pulmonary vessels in an inflamed spot of lung, as noted by Mr. Paget, as well as the coagula in the vessels of a mortified limb, fully establishes. To uniformly distinguish that occlusion which precedes, arises in the course of, or is superadded to any local affection, presumes a certainty in data we at present do not possess, nor could we, were we enabled to do so, isolate such conditions as the cause of this disease, since, to use the words of the author, "it is often quite impossible to say how much is due to the state of the vessels, how much to the condition of the blood itself, and how much to the defective assimilation of tissues, the latter of which has often most undoubtedly a large share in the process of destructive conversion."

The occurrence of sanguineous apoplexy in a state of anemia is believed to depend on fatty degeneration of the cerebral vessels, a subject on which the researches of Mr. Paget have thrown much light, while the writings of Dr. George Burrows and Budd further support the doctrine, that all chronic and debilitating maladies may so impair the nutrition of the cerebral blood-vessels as to lead to their degeneration and rupture, thus giving rise to an analogous condition to that described by Dr.



Quain, where obstruction of the coronary artery eventuated in local fatty degeneration, under which circumstances apoplexy may occur in persons having, to use the words of Dr. Burrows, "the very reverse of the apoplectic make."

In his observations on the influence of the nervous system, and its relation to the progress of nutrition, much that is interesting is to be found. That action and reaction of mind and body, which many authors have previously noticed, is by Dr. Barlow particularly dwelt on. The influence of the emotions on the secretions as detailed by Dr. Carpenter—the effects of mental attention on the bodily organs as set forth by Dr. Holland—the researches of Lallemand and Rostan on the influence of the depressing passions—the fatal consequences observed to follow long-continued anxiety and undue mental exercise as described by Dr. Forbes Winslow, illustrated by the pallid cheek, the attenuated frame, the careworn brow and early grave of those many whom genius fostered that fortune might crush,—demonstrate too sadly the close association and mutual dependency of the material and immaterial constitution, as well as their ready co-operation for the production of disease.

That there is a local failure of the assimilative power which is always the immediate and necessary precursor of degeneration, the circumstances under which it is developed appear to indicate. The interesting point in such an inquiry to be determined is, whether a part be unable to assimilate from want of material, or power to appropriate it. To solve this question we must first be in a position to trace the steps in the morbid process, and to determine, not only that eclectic power whereby parts abstract, but also that special power by virtue whereof they perpetually renovate themselves; and, while making due allowance for the result of combined agencies, to also estimate the relative importance of those separate operations whose aggregation constitutes this influence. Such knowledge, in its relation to the disease we are considering, we can only hope to more closely approximate by our just comprehension of the laws of nutrition, since therein rests our capability of estimating the germ power, and the influence it exercises through all our being. In the progress of life is demonstrated the process of decay. Our capability of recognising the one will be therefore proportionate to our intimate knowledge of the other.

The researches of many microscopical pathologists have established the character of those several changes in the organic cell which precede degeneration, and noted the successive stages of germination, growth, and death. That their labours have not eventuated in corresponding accuracy in treatment, has by

many sceptics been advanced in depreciation of their practical advantage. Had M. Andral accomplished no more for science than the establishing the compound nature of many pathological phenomena which the casual observer might consider as simple, his labours had not been in vain; for therein rests the refutation of those doctrines which limit or estimate the varied phenomena observable in living beings, according to the operation of ordinary physical or vital forces, while at the same time, the cause of the uncertainty in treatment is thereby in a great measure explained. Since, as Dr. Williams has already shown, to correct those primary changes in the organic elements which seem to set at defiance the ordinary laws of nutrition, and eventuate in such transmutations as those under consideration, would imply our capability of not only commanding uniformity in vital action, but also of accurately measuring vital force;—a supposition, which, though so thoroughly erroneous, is still, we fear, entertained by some who regard natural and vital laws as identical, and presume that the same sensible operations observable in the interchange of organic elements, when removed from vital influences, must be accomplished in a like manner, follow a similar course, and be equally as appreciable when governed and directed by such influence; forgetting that the very existence of the conditions so specially examined is the evidence of the accomplishment of a certain change, which may be either the simple result of many primary operations, or the compound result of many secondary operations, of whose individual nature we are unable to speak, except through the complicated evidence their consummation affords.

Mr. Paget has well described the primary development of the cell, the deterioration of its nucleus, and consequent blighting of its germ, as observed by him to occur in fatty transmutation of muscular structure; such transmutation, according to that distinguished writer's views, must therefore be regarded as so far bespeaking irreparable decay, since the instruments of reparation, *quoad* the structures involved are wholly destroyed. From this affirmation the very important inquiry arises, wherein then rests our hope for the patient? To this Dr. Barlow replies, "not in the future changes of the part destroyed, but in the efforts of the bordering tissue—not in absolute death, but reparable atrophy." We admit experience too frequently verifies Mr. Paget's opinion that "a tissue once converted into fat may be held to have perished irrecoverably." Are we, however, to give up in despair, and to presume that uniformly this abnormal condition is beyond the reach of the general surrounding vital influence, because it is incapable of

manifesting special vital force? Or, should we, with Dr. Stokes, rather entertain the hope, "that with the advance of medicine, both diagnostic and hygienic, we may yet be enabled not only to check the growth of fat in the heart, but to restore the muscular fibre to its pristine condition of volume and power?"<sup>a</sup> That Dr. Barlow believes much good, be it curative or prophylactic, may be expected from the employment of suitable means, we infer from his advocating, according to the circumstances of the case, repose; the administration of iron; such change of air and scene as entails cheerful occupation for the mind and healthful exercise for the body, which he declares he has found, not only to arrest the atrophy which would have become degeneration, but also to stay the latter where it had begun.

We have so far, analytically rather than critically, reviewed the first part of "*Barlow on Fatty Degeneration*." We cannot at present enter more fully into the subject; we trust, however, on a future occasion to do so, being fully impressed with the practical importance of those researches, to which, as his writings testify, Dr. Barlow must have devoted much time and great labour. Yet, ere concluding these observations, we shall briefly notice some contributions, which, emanating from this side of the Channel, have considerably advanced our knowledge on this subject. We are the more particularly induced to do so, since, on the present occasion—as on others—those contributions have been to a great measure ignored.

In his recent work, alike remarkable for the vastness of its research as the philosophy of its reasoning, Dr. Stokes has fully, and we believe impartially, set forth those sources from which the most valuable additions to our knowledge on this subject, in connexion with the heart and great vessels, have been derived.

The character of the apoplectic seizures, which may be considered as indicative of fatty degeneration of the heart, was many years since described by Dr. Cheyne<sup>b</sup>, and subsequently confirmed by Mr. Adams<sup>c</sup>, the latter of whom, in his *Pathological Descriptions*, also established the association between atheromatous and fatty depositions, which, although the researches of Andral, Lobstein, and Gluge, have not tended to the same result, more recent observations approve. The demonstration, by Professor Smith<sup>d</sup>, of free oil in the blood, while showing that this fluid is sensibly affected in the change,

<sup>a</sup> Stokes, *Diseases of the Heart and Aorta*, p. 356.

<sup>b</sup> *Dublin Hospital Reports*, vol. ii. p. 217.

<sup>c</sup> *Dublin Hospital Reports*, vol. iv.

<sup>d</sup> First Series of our *Journal*, vol. ix.

leads Dr. Stokes to the further inference, that "a fatty state of the heart may be caused, not alone by degeneration of the protein compounds, but also by oil already formed, and circulating in the blood itself"<sup>a</sup>. The cases detailed by Dr. Townsend, expounding the latency of this disease<sup>b</sup>—the accurate detail of the physical manifestations, denoting progressive and matured softening of the heart, as witnessed in fever—the association of its vital and mechanical operations as a means of diagnosis in fatty degeneration, which Dr. Stokes has recorded both in the pages of this Journal, and in his great work, to which we have alluded—the association of certain conditions of the heart, with the occurrence of delirium, as a guide to treatment in fever, as set forth by Dr. Hudson<sup>c</sup>—the eminently practical contributions to our knowledge of disease of the brain as dependent on disease of the heart, from the pen of Dr. Law<sup>d</sup>—the more recent essay of Mr. Richardson on "Permanently Slow Pulse and Fatty Heart"<sup>e</sup>,—and the numerous contributions to our knowledge of the vital and physical evidences of this disease which are to be found in the writings of many throughout our pages, conjoined with the records of the "Dublin Pathological Society,"—sufficiently prove that hitherto we have been neither negligent nor careless observers, since much of what is anatomically true, and more of what is practically useful in our recognition and treatment of this disease, has been noticed by and is fairly due to the labourers of the Irish Medical School, thereby affording the best reply to the energetic declamation of certain alarmists, who, in their vivid expositions of our small faults, seem to have manifested an equal indifference to our great merits.

Finding by the title-page that this was a posthumous publication, we were induced to refer to that highly useful work, "The Medical Directory," for the present year, in the obituary of which we read as follows:—

"His—Dr. Barlow's—illness, had been preceded by some circumstances of an irritating and vexatious character, which had kept his nervous system in a state of much excitement; some regulations, emanating from the weekly Committee of the hospital, requiring his signature each time he visited the wards, together with other changes in his department, harassed and annoyed him; headach of some days' duration, with sleep-

<sup>a</sup> Stokes, *Diseases of the Heart and Aorta*, p. 320.

<sup>b</sup> First Series of our Journal, vol. i.

<sup>c</sup> First Series of our Journal, vol. xx.

<sup>d</sup> First Series of our Journal, vol. xvii.

<sup>e</sup> No. 28 of our present Series.

lessness, were followed by febrile symptoms and exhaustion, which terminated fatally."

A statement of this nature is always very painful to us, for the question arises to our mind, why can such things be? We have had some opportunity of forming an opinion, and recalling our own experience as well as our observation of others; and our conviction becomes the more confirmed, that the possibility of similar occurrences rests not in "our stars, but in ourselves." Do we, as a body, uphold and support each other? Is our profession recognised with that due honour, and treated with that proper respect, which the vastness of the interests it involves, and the responsibility of the duties it entails, justly entitle it to? Is its social and scientific position identified? Experience, we regret to say, affords a negative reply. Whence are we to hope for redress? Not surely from public boards, who value our services at a lower rate than those of ordinary mechanics; not surely from corporate bodies, who, in conflicting interests, seem to lose sight of those great principles committed to their care; nor yet from despotic Committees, in whose hands it appears not only the duties of our office, but its very existence, rests. But rather, in that reciprocal confidence and mutual co-operation one with another, which, while affirming our just claims as a profession, at the same time will lend stability to our position as individuals; and this can only be effected by honourably upholding each other, rather than following in that course which we have already strongly repudiated, of misleading the public respecting our claims to its good faith, and so affording fictitious grounds for their unjust suspicions or oppressive enactments.

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*A Treatise on the Diseases, Injuries, and Malformations of the Rectum and Anus.* By T. J. ASHTON, Surgeon to the Blenheim Dispensary, formerly House Surgeon to University College Hospital, &c. London: Churchill. 1854. 8vo, pp. 356.

In the twelfth volume of our former Series (1838) will be found a review of a Treatise on Diseases of the Rectum by the late Dr. George Bushe, a surgeon of distinguished abilities, who received his education in this city, and who left this country to fill the Chair of Anatomy at New York. In Mr. Ashton's preface we find the following testimony to the value of Dr. Bushe's work:

"The treatise of Dr. Bushe, of New York, who unfortunately died shortly after its publication, is the only one with which I am acquainted that embraces the whole subject; and from it I have gained much valuable information."

This paragraph, and an occasional mention of Dr. Bushe's name, constitute the only acknowledgment Mr. Ashton sees fit to make for copying, with singular fidelity, a great part of Dr. Bushe's book. We shall lay before our readers a few proofs of this wholesale, and we are happy to say nearly unexampled act of literary piracy in the present age. Were we to bring forward in evidence all the parallel passages in the two volumes we should be obliged to transcribe a large portion of each work. We must, to expose so flagrant a dishonesty, contrast some passages, and we shall merely premise that the following selections are taken almost at random:

BUSHE, page 93.

*Inflammation and Excoriation of the Anus.*

"These affections are generally combined, and may be produced by long-continued walking, or riding on horseback, the passage of irritating secretions, or the want of cleanliness. Obesity and warm weather strongly predispose to them. When they arise from excessive walking, or riding on horseback, nothing more will be necessary than to keep the bowels easy with enemata, to wash the parts three times a day, to dust them with hair-powder, or lapis calaminaris, to place a fold of old linen between the buttocks, and to enjoin the horizontal position. Should they depend on irritating secretions, produced by cathartic medicines, they will subside when the purgation ceases. If they coexist with diarrhoea or dysentery, they will disappear with the cure of these diseases. When the secretions, however, become vitiated from luxurious living, it will be necessary to enforce a vegetable

ASHTON, page 14.

*Inflammation and Excoriation of the Anus.*

"If the inflammation and excoriation are the result of excessive exercise either on foot, horseback, or riding many hours in a carriage, it will only be necessary to wash the parts two or three times a day, and to apply pounded lapis calaminaris, or hair-powder, and to keep a fold of lint or linen between the buttocks; it may be sometimes advisable to enforce the observance of the horizontal position. Enemata will be the best means of keeping the bowels open. Should the cause depend on the depraved state of the excretions, this condition must be remedied by the exhibition of appropriate medicines; small doses of mercury and chalk, with extract of taraxacum, or blue pill with hyoscyamus and cathartic extract, to be taken at night, and the following morning, Rochelle salts with infusion of senna, or a bitter tonic infusion; the sulphate of magnesia, dilute sulphuric acid, and the compound infusion of

diet, to exhibit blue pill and cathartic extract at night, and Rochelle or Epsom salts, in an infusion of senna, quassia, or some such preparation, on the following morning. This course should be continued until the alvine discharges become healthy. The local treatment necessary in each of these cases is similar to that specified above: when they arise from want of cleanliness, the hair and discharge become matted together, and thus form a crust which covers the excoriated surface. Under such circumstances, the parts ought to be poulticed until the crust becomes so soft that it can be removed without cutting the hair; for should this be done, as I have once seen, the irritation created by the stumps will increase the inflammation, protract the healing of the suppurating surface, and render the patient exceedingly uncomfortable, until the hair has again acquired sufficient length to diminish the friction of the buttocks on each other. After the parts are sufficiently cleansed, a saturnine cataplasm impregnated with laudanum should be applied, and changed every six hours, at which time the diseased surface ought to be washed with cold water and the common yellow soap. An emollient lavement may be taken daily, the horizontal position maintained, and a low diet strictly observed. In some cases, particularly those of long standing, it is sometimes necessary to use lotions of the sulphate of zinc, or nitrate of silver. The ointments of the oxide of zinc, superacetate of lead, white precipitate or nitrate of mercury, are also very useful remedies."

gentian, or infusion of cascarilla, make a good purgative. Other similar combinations may be prescribed; the remedies are to be continued until the alvine discharges become healthy. The same local treatment as that previously recommended must be adopted; if dysentery or diarrhoea be the cause, the effect will subside with the cure of these diseases; if the abuse of cathartic medicines has set up the disease, by the discontinuance of the cause the effect will be removed. When inflammation and excoriation have been produced by a neglect of cleanliness, the observance of different habits is the first step towards a cure; soap and water must be used several times daily; if the hair around the anus has become matted together by the discharge and filth, forming an incrustation over the excoriated surface, it must be softened by the application of linseed-meal poultices, and the free use of the hip-bath and soap; on no account must it be removed by cutting the hairs, otherwise the stumps left will cause much irritation and distress, until they have again attained a certain length.

When the parts are sufficiently cleansed, poultices impregnated with opium and a solution of acetate of lead, or lint saturated with lotions of nitrate of silver, sulphate of zinc, or acetate of lead, may be kept to the parts; or ointments of the nitrate of mercury, bichloride of mercury, oxide of zinc, &c., may be applied. The recumbent position must be maintained, and the bowels acted on by cooling laxatives and emollient enemata."

Again, in the chapter on fissure of the anus and lower part of the rectum, we find the following:—

BUSHE, page 102.

“In the commencement of this disease the symptoms are not severe, being merely at one time a pricking or stinging sensation, at another a slight smarting in a certain point of the anus, which, under the use of lavements and low diet, subside either altogether, or, after a few days, return with more severity. The pain, gradually increasing, becomes burning, sometimes lancinating, and, when severe, throbbing. It is increased by forced expirations, as coughing, sneezing, and urinating. Every effort to discharge gas and fæces is attended with excruciating torment, which continues for one or more hours, attended with violent spasmodic contraction of the sphincter ani. So violent is the agony, that most persons thus afflicted put off the calls of nature, maintain the recumbent position, and some even avoid taking a proper quantity of nourishment for fear of increasing the fæcal mass. The pain is always increased by stimulating food, and in females during menstruation. . . . . When the fæces are solid they are slightly streaked with blood and matter, and when more soft, are figured, and of small size.”

ASHTON, page 32.

“In the commencement of this disease the symptoms are not generally severe, and are only experienced when at stool, when, at a certain point, there will be smarting of greater or less severity, or perhaps only a slight stinging or pricking sensation may be felt; if the disease is allowed to progress, the smarting, during the act of defecation, will be greatly increased, or the pain may be burning or lancinating, followed by excruciating aching and throbbing, with violent spasmodic contraction of the sphincter muscle, continuing from half an hour to several hours. The stools, when solid, will be streaked with purulent discharge, and slightly with blood, and when more soft will be figured, and of small size. . . . The disease being fully established, the pain will be induced by sneezing, coughing, forced respiration, and by micturition, and so violent does the agony become, that individuals thus afflicted even avoid taking the proper quantity of nourishment, in order that the fæcal mass may be small; they also in their dread postpone the calls of nature . . . or may be compelled to remain recumbent.

In the above quotations which we have made from Mr. Ashton no reference is made to Dr. Bushe's work; in the next extract which we shall give there is an allusion to it, but with what sort of candour or honesty our readers may judge for themselves.

BUSHE, pages 152-54.

“I have frequently dissected them (internal piles) with the greatest care, and found that

ASHTON, pages 84-86.

“By dissection internal, hemorrhoidal tumours will be found to consist of both arteries



they were spongy, reddish, and contained both arteries and veins, the latter being most capacious, but always perfectly healthy. Their surface is villous, and generally bleeds when touched roughly, or scratched with the nail, the blood which issues being of a florid colour. In many instances I have been able to rub off exceedingly vascular and fragile adventitious membranes from their surface. Thus it would seem that they may acquire an increase of magnitude in this way."

and veins, the latter capacious, not in a diseased condition, but merely of abnormal development; the areolar tissue of the mucous membrane is hypertrophied. . . . The surface of the tumours is villous, presenting to the unassisted eye a granular appearance; they generally bleed freely if rudely touched, or accidentally scratched by the nail during an examination, the blood being of a bright red colour. Dr. Bushe states he has been able to rub off an exceedingly vascular and fragile adventitious membrane from their surface, and is of opinion that they may thus acquire an increase in magnitude."

We shall not weary the patience of our readers by making any further extracts at length; in order, however, to prove that these are no accidental or occasional instances of identity of opinion and expression, we shall add references to some others, which are as flagrant.

Remarks upon the symptoms of hemorrhoids, in pages 86, 89, 90, 91, of Ashton, are taken from Dr. Bushe's book, pages 154-55, 146-49, 148, 149, 146, 147. Pages 91 and 94 are a literal transcript into the text from a long note, beginning at page 147 of Bushe. The chapter on foreign bodies in the rectum opens with paragraphs taken from the 57th page of Bushe, and the bulk of the cases recorded in it is taken from the notes to his chapter on the same subject. The chapter on malformations of the rectum and anus is also made up by similar wholesale plagiarism, and this, with a degree of care not to be anticipated from the barefaced way in which the extracts given above have been copied. In this chapter there is less addition of verbiage (we cannot call it original matter), so that the English author resorts to transposition of paragraphs from the American, e.g.:—

BUSHE.		ASHTON.	
Page	36, 38,	Page	326.
"	44, 38, 39.	"	327.
"	49.	"	328.
"	46, 51, 52, 53.	"	330-31-32.
"	55, 54, 41, 50.	"	334-35-36-37.
"	43.	First part of page 338.	

It was not enough, however, for Mr. Ashton to rewrite Dr. Bushe's work, and publish it as the offspring of his own brain (with the addition, to be sure, of certain facts and opinions which have gained general acceptance since the year 1837). His sins of bookmaking do not end here:—the book, such as it is, consists of 356 pages; upwards of 80 of these are filled with cases, many of them, as already stated, taken from Dr. Bushe without acknowledgment. One page is taken up with Montégre's classification of piles, which, we are told in the next paragraph, is unnecessary for practical purposes. Prescriptions are introduced into the text in such a way as to occupy much space<sup>a</sup>; the table of contents is expanded to twelve pages, at least eight of which might have been dispensed with, as a copious index of six pages supplies the information contained in them. We shall not complain of the large type and ample margin, nor of the numerous subdivisions into chapters and paragraphs; these are common sins, and, to a certain extent, venial; the eyes of the reader are saved, and there is abundant room given him for reflection: yet if all writers of monographs were to expand their works in this direction as much as Mr. Ashton has done, our libraries would soon be enlarged to a portentous size.

In conclusion, we shall only suggest to Mr. Ashton, when he again ventures upon wholesale plagiarism, to select an older and less remarkable book than that of Dr. Bushe; and above all, to shun the works of our countrymen, especially of those whose talents have raised them to conspicuous positions in foreign lands, for our feelings of national pride are certain to make us well acquainted with their contents, and we shall surely not spare those who rob their ashes.

*Sleep and Dreaming.* A Lecture delivered before the Cork Young Men's Association, during its third session. By JOHN POPHAM, A.B., M.D.

THE subject selected by Dr. Popham for his lecture before the Young Men's Association of Cork, being one which has alike

<sup>a</sup> Among these we find Dr. Graves' excellent recipe for habitual constipation (of course unacknowledged):—

GRAVES.  
 ℞ Electuarii Sennæ, . . . ʒij.  
 Bitartratis Potassæ, . . ʒss.  
 Carbonatis Ferri, . . . ʒij.  
 Syrupi Zingiberis, quantum suffi-  
 cit ut fiat electuarium.

ASHTON.  
 ℞ Confectionis Sennæ, . . ʒiij.  
 Potassæ Bitartratis, . . ʒvj.  
 Ferri Carbonatis, . . ʒij.  
 Syrupi Zingiberis, q. s.  
 M. Fiat Electuarium.

attracted the attention of physicians, philosophers, and poets, was therefore peculiarly adapted to such an audience.

Bringing to bear on its consideration a classic mind richly stored with varied knowledge, Dr. Popham ably accomplished that in which so many fail; and happily conjoining the solid truths of science with the vivid suggestions of fancy, embodied at the same time, in his eloquent address, many profound theories and deeply interesting facts.

Dr. Popham's pamphlet must be read with improvement and pleasure by all desirous of gaining information respecting those topics of which it so well treats, while the high ethical tone evident throughout its pages cannot fail to at once impress the reader with the unaffected zeal of the author, as well as the great practical advantages which must accrue to such Associations from the delivery of similar addresses by individuals so eminently competent and trustworthy.

*Traité Clinique et Pratique des Maladies des Vieillards.* Par M. DURAND-FARDEL, Docteur en Médecine de la Faculté de Paris, &c. Paris: Germer Baillière. 1854. 8vo, pp. 876.

IT is not a little singular, considering how medical literature abounds in treatises on the diseases of infancy and childhood, the small number of books which has been published on the peculiarities that characterize the diseases of old persons, or the special maladies to which they are subject. We made a somewhat similar observation some years ago, when reviewing the treatise of Dr. Day in the pages of this Journal, and since the publication of his volume, in 1849, we are not aware that any special work, except that of the late Reveillé-Parise<sup>a</sup>, has appeared on the subject. That this does not arise from any want of interest in the inquiry, or material to write upon, is sufficiently proved, so far as regards our French brethren, by a reference to their periodicals and medical dictionaries, for in them are to be found, first, a valuable memoir "On the Diseases of Old Age," by M. Prus<sup>b</sup>; an admirable, concise essay, by M. Beau, entitled: "Clinical Studies on the Diseases of the Aged"<sup>c</sup>, and an excellent article on the "Diseases of Advanced Life," by M. Gillette<sup>d</sup>. Yet no English medical writer since

<sup>a</sup> *Traité de la Vieillesse, Hygiénique, Médical et Philosophique.* Paris: 1853.

<sup>b</sup> *Mémoires de l'Académie Royale de Médecine*, 1840.

<sup>c</sup> *Journal de Médecine*, 1843.

<sup>d</sup> *Supplément au Dictionnaire des Dictionnaires de Médecine*, 1851.

Dr. Day has thought it worth while to devote a special treatise to this subject, and therefore his work, though deficient in many respects, and devoid of much originality, is still the only standard book in the English language to which the practitioner seeking for information on the peculiar features which characterize the maladies of advanced life can refer.

M. Durand-Fardel, then, has supplied a deficiency much felt in medical literature, by laying before the profession the results of a prolonged study of the maladies of the aged during the many years he has been attached as *interne* to the asylums of Bicêtre and Salpêtrière, and of a special attention to these diseases for fifteen years. More than ten years ago he published a highly practical treatise on softening of the brain, in which he dwelt especially on this affection in the old; and stimulated by the reception which it received, he says that he has been encouraged in his present enterprise, and emboldened to submit to the judgment of the profession this extended work.

The volume commences with an introduction, containing an admirable exposition of the several points in anatomy, physiology, pathology, therapeutics, and hygiene, which are special to old age, and a correct knowledge of which is necessary to the understanding of the deviations from a healthy state that may occur in advanced periods of life.

The work itself is divided into four parts; in the first of which diseases of the brain and nervous system are treated of; in the second, diseases of the respiratory organs; in the third, diseases of the circulatory system; and in the fourth, diseases of the abdomen. To these is added an appendix containing two chapters, on gout and on diseases of the skin.

The diseases of the encephalon are, perhaps, those deserving most attention in a book devoted especially to an account of the maladies of old age, as they are most frequent at this period of life, and can then be most successfully investigated; the author has consequently applied himself most carefully to their examination, incorporating in his present observations what he had previously published twenty years since in his valuable work on *Ramollissement of the Brain*, and thus we are here presented with the most perfect essay on this important class of affections which has been ever written.

Their special description is preceded by a short inquiry into the difference between the diseases of the brain in infancy and childhood, and in advanced age. The most remarkable contrast existing between them being, that those of early life are affections of the membranes or periphery of the nervous centres, while in old age it is the hemispheres or central parts which

are affected ; the diseases most frequently occurring at the latter period being cerebral hemorrhage and ramollissement. The several affections of the brain are then considered as follows : 1. *Cerebral Congestion*, which is most fully inquired into, both as regards its pathology, nature, and seat; the author considering it to be by far the most fertile cause of all diseases of the brain in old age. 2. *Meningitis*. 3. *Cerebral Softening*, under which head the physician will find a highly valuable and practical description of this important disease. 4. *Hemorrhage from the Membranes*. 5. *Sanguineous Infiltration of the Brain*. 6. *Cerebral Hemorrhage*. The first part of the volume is concluded with a special chapter on the *Treatment of Diseases of the Brain*.

The second part contains an equally full account of the special features of Pulmonary Catarrh, Pneumonia, Phthisis, Sanguineous Congestion and Infiltration of the Lungs, and Pleurisy as they occur in advanced life, together with the peculiar indications for treatment which then exist. It does not perhaps abound in so much original investigation as that devoted to diseases of the brain ; nevertheless, it is most ably and comprehensively written. The same remark applies to the two following parts on the diseases of the circulation and of the digestive organs ; and to the appendix, which, as already remarked, contains the essays on gout and on diseases of the skin.

On the whole, the work is a timely addition to the existing treatises on the several branches of the practice of medicine. It is well and clearly written ; perhaps a little too diffuse in parts, but this is a fault common to most French and German medical authors ; and as a book of reference for the practitioner or student, leaves little to be desired, if information be sought for on the diseases of old age.

*Practical Observations on Gout and its Complications, and on the Treatment of Joints stiffened by Gouty Deposits.* By T. SPENCER WELLS, Fellow of the Royal College of Surgeons of England ; Member of the Royal Institution of Great Britain ; late Assistant Surgeon in Malta Hospital, &c. London : John Churchill. 1854. 12mo. pp. 288.

THE design of the present treatise, according to the author, is not to furnish a systematic work on gout, but to institute an inquiry into certain points connected with its pathology and treatment, which he considers are not to be met with in other productions. As an example of this he alludes in his preface

to a connexion between gout and certain forms of secondary syphilis first suggested to him by the late Dr. Robert Williams, of St. Thomas' Hospital, London, and the value of the iodide of potassium as a remedial agent, "by the solvent action which it exercises upon the salts deposited round the joints in gouty persons." From the results which followed his observations on this subject, he was led to extend his inquiries to gout uncomplicated by syphilis, having had favourable opportunities for forming his opinions by a residence in Malta Hospital, as one of its resident medical officers, for five years; besides seeing numerous cases of rheumatic gout sent to that island from England, for change of air, he made a series of observations upon the relative effects of medicine and climate as far as they can be distinguished. Upon this collection of facts is formed the present work, which he offers to the profession with diffidence, as having grown out of a sincere desire to convey useful information resting on truthful data.

Treatises of this kind, not professing too wide a scope, but worked out by close reasoning and patient observation, will be always received with respect, and in his interesting little volume, the author has endeavoured to give his readers correct information rather than to display extensive reading. Without further preface we shall consider how far he has succeeded in attaining his object.

The writer begins his work with some general considerations upon the nutrition of the body and the causes which derange it. In investigating these causes, he finds that they all tend to one result, viz.—an alteration in the state of the blood. The experiments of modern chemistry have shown that in the blood of gouty persons certain principles exist which are not formed in that of healthy individuals. Further confirmation of this has been obtained by an examination of the secretions and excretions, the deposits round joints and along tendons, all of which contain the identical elements found as morbid ingredients in the blood. The natural conclusion, therefore, deducible from this is, that the blood rids itself of its impurities at the expense of other parts of the system, thereby producing disturbances of their functions and lesions of their structure. The immediate origin of these blood-changes is often doubtful, whether proceeding *ab intra* from the retention of effete tissues, or *ab extra* from imperfectly assimilated matter introduced into the circulating fluid.

The examination of the blood in gout has had encouraging, though as yet insufficient results. Thus, calcareous particles were noticed long ago by Haller as visible to the naked

eye; lithate of soda was found by Garrod and Bence Jones; urea has been also detected; these agents continue in the blood for a greater or less time, acting as sources of irritation; but eventually are removed by the emunctories of the body, or deposited from the current of the blood in various situations. The kidneys and the skin are the great purifiers of this fluid; uric acid and the lithates being strained from the blood by these organs when their action is unimpeded; if, however, after repeated attacks of gout, they become debilitated by over-action, the balance of power in the system is disturbed, and the morbid matters left in the blood begin to be deposited in abnormal situations; hence arise those concretions of saline and earthy matters found in the fibrous tissues, destroying their elasticity and rendering them rigid and incapable of action. Chemical analysis has shown these to vary among themselves, but they contain more or less of the urates of soda, potash, and lime, with phosphoric acid and the phosphates. Such are the results supplied by chemistry, and with these facts the writer proceeds to consider the *causes* of the derangements of the processes of nutrition which give rise to those chemical changes.

In exploring the causes which deteriorate the blood in gout, a long train of hostile agencies passes in review before us, each of which possesses a greater or less influence in impairing the general health. Thus we may enumerate sedentary habits, feeble digestion, over-stimulating food, intemperance, excessive study, confined and unwholesome dwellings. It would be easy to add to this catalogue of constitutional agencies which prepare the ground for the seeds of the disease to take root. But most of them may precede other dispositions as well as the gouty, and may develop tubercle in a strumous constitution as readily as gout in a gouty one; it is necessary, therefore, to particularise with more exactness those causes which exercise a non-direct influence on its production.

One of the earliest and most powerful of these causes is "a *hereditary tendency* to particular modifications of the vital processes." There certainly is no aphorism in medicine so universally received as the tendency of parents to transmit certain peculiarities to their offspring. From the creation to the present day it has remained true that parents have produced children "in their own likeness." It would then be absurd to argue that in the lineaments of face and figure a resemblance can be transmitted, while a corresponding similitude in the shape and texture of internal organs is not congenital. Sir James Clark has fully developed the truth of this principle in phthisical habits; *viz.*, "that a parent la-

bouring under tuberculous cachexia entails upon his offspring a disposition to the same affection, proportioned in general to *the degree of the disease under which he is labouring.*" Thus, if the malady prevail in one or both parents at the time of conception, the issue will possess a greater degree of susceptibility to the disease than children born under more favourable circumstances. If this be true when the ailment is produced by casual attacks, it becomes much more certain when the tuberculous cachexia is hereditary, though the good health of one parent may to a certain degree counterbalance the vicious condition of the other. Our author notices the same undesirable inheritance as transmissible from gouty parents, so that gout accidentally developed in an individual may descend from generation to generation through ages yet unborn, until the original gouty ancestor is enveloped in the obscurity of time. He gives some cases which illustrate this matter.

A gentleman was one of a family of six children, four of whom were born before the father had experienced a gouty attack; between the birth of the fourth and fifth the father had acute gout, and died of the disease some years later: the four elder children escaped gout, but the two younger were both gouty. These hereditary influences, if traced carefully, are as curious in a political as in a physiological light: they would form a singular chapter in the history of population. Men too often care little how much their vices and selfish indulgences may affect their posterity, no more than they care how they may react on themselves at the close of life. Still the wheels of society must roll onward; we cannot by either moral or legislative enactments stop marriages between cachectic individuals on the ground of producing a defective progeny.

In connexion with hereditary predisposition to nutritive derangements as a cause of gout, the author discusses the question whether gout can be induced by an "undue or irregular development of certain parts of the nervous system," and he combats the opinion that gout can be developed in healthy individuals by the excessive use of over-stimulating food. He believes that when hereditary proclivity is absent, this measure would only succeed in "men endowed with a highly organized condition of the nervous system." We are not disposed to go as far as the author in the adoption of this opinion. Gout, according to him, is peculiarly a disease of the high born, "distinguished for an ancestry rendered illustrious by high thoughts and noble deeds, for their own keen intelligence, for the assistance they have afforded to improvements in arts, sciences, and agriculture, and for the manner in which they



have led the spirit of the age." He continues, "I have never met with a real case of gout in other classes of the community, in a person not remarkable for mental activity, unless the tendency to gout was clearly inherited." Now an objection may here be naturally started, how it happens that gout prevails so much in an opposite class, in persons not illustrious by birth or distinguished for intelligence; for instance, in butlers, and coachmen, and hall-porters, those pampered menials who assume the habits with the livery of families of wealth and fashion. As this class has no pretension to the above-mentioned aristocratic transmission of the disease, we might perhaps be disposed to adopt the theory of Falstaff explaining the similarity of Justice Shallow and his servants, "that wise bearing or ignorant carriage is caught as men take diseases, one of another." Our author, however, contends that the disease in this servile class does not arise from similarity of habits, but is clearly inherited, the sons of these retainers of high families filling the easy station, leading the idle life, and using the same gluttonous indulgences of their fathers before them, so that master and man differ in the nosological variety of the disease, much as port wine, the drink of the one, differs from muddy beer, the beverage of the other. Whether because great men have gout, gouty men must be great men, is a proposition which certainly may give comfort to some gouty sufferers of aspiring minds, but experience shows that it cannot be relied on. We must take some exception, also, to another point of our author, wherein he asks "whether it be reasonable to suppose that a father and mother descended from persons who had cultivated their minds, and thereby kept the delicate fibrils of the brain in regular exercise, and who themselves continue to perfect the organism they have inherited, by a continuance of the same habits of mental culture, will impart to their children a brain precisely similar in size, composition, and arrangement, to that of children whose progenitors have lived in a state of mental sloth, who have never exercised their brains, and have, consequently, never attained that perfection which use imparts to every organ of the body. Such a supposition would be absurd. It would imply imperfection in the grand scheme of creation, denial of the greater perfectibility of the species, disbelief in the sure and certain progress of advancing civilization, and discourage those who are most earnestly labouring in the cause of education and humanity." Without denying that there is some probability in the above hypothesis, and that the poetic idea, "*fortes creantur fortibus et bonis boni*," is not a fiction gracefully put forward to please a patron, but a physiological fact;

we need only enter our hedge schools to find the children of some of those brainless peasants exhibiting a degree of acuteness which sometimes contrasts unfavourably with the progress of the noble scions of aristocratic houses, though possessing every advantage of education. How often do we find the offspring of eminent men degenerate! Doubtless, education and example have as much influence in developing mind as the *vis insita*, "otherwise courage and virtue would be matters merely dependent on the relative proportions of the brain."

Another and a most frequent cause of gout from deranged nutrition, assigned by the author is to be found in the use of food of an improper kind, or imperfectly assimilated. Experience has shown that too abundant or too rich an animal diet, if not worked off by habitual muscular exercise, tends to produce gout; and the same is true of alcoholic liquors, though of these, the vinous and fermented are more instrumental in causing gout than the distilled liquors. These principles seem to act by accumulating lithic acid in the system, but where this morbid agent is formed is as yet undecided; whether by the kidneys, the blood allowing some of it which is not excreted during sanguification to return by the renal veins to the general circulation, or by a prior process either in the changes undergone by the aliment, or in the extreme capillaries of the tissues. The author attacks the theory of Liebig upon the origin of gout from an excess of the non-nitrogenous principles in the body. These, Liebig states, attract to themselves the supply of oxygen, and thus prevent the conversion of the insoluble lithic acid into soluble urea and carbonic acid, so that it remains in the blood and appears in the urine. Mr. Wells objects to this, that a diet consisting of non-nitrogenous substances would thus increase the formation of lithic acid, which is contrary to experience, such an increase accompanying an animal or nitrogenous diet. He leans to the opinion of Prout, that lithic acid and urea are formed from the nitrogenized elements of disintegrated tissues and the imperfect assimilation of highly nitrogenized food. The results of practical observation accord with this view.

In his second chapter the author proceeds to distinguish between gout and rheumatism, which, though consanguineous diseases, have points of difference too strongly marked, in his opinion, to allow them to be regarded as varieties of a common malady. He enters into these distinctions at length, but we can only make a brief allusion to them. Thus the blood-changes are not the same in both. In gout lithic acid accumulates; in rheumatism lactic acid. Again, the fibrous tissues in gout be-

come incrusted by saline or calcareous deposits, none of which occur in rheumatism. The secondary differences are no less marked. For example, the liability to pericarditis, so frequent in rheumatism, is not seen in gout. In the former, acid perspirations are common; in gout the skin is dry. Rheumatism arises from changes of weather suppressing the secretions from the skin; gout arises more from dyspeptic causes. Rheumatism affects more the large joints; gout the small ones. The effect of remedies also may offer some specific marks of distinction, especially of colchicum, so powerful in gout, and so little available, according to the author, in rheumatism.

The author gives some cases of what is called *rheumatic gout*, popularly considered a kind of mongrel disease, with characters derived from both gout and rheumatism. He thinks both diseases may exist in the same person, yet preserve a *separate* course. For illustrations of his views we must refer to the work itself.

We find in the third chapter some original ideas upon gout modified by syphilis. It has lately been allowed that the poison of syphilis remains for years in the blood, and that it can be transmitted long after the original contamination, from parent to child, and in all probability from a diseased child to a healthy nurse. Now the existence of the syphilitic poison in the blood most probably modifies other diseases subsequently occurring, especially a blood disease like gout. In this way, some anomalous symptoms, apparently in connexion with gout, are more properly due to syphilis. Of these he cites examples of purpura, of lichen, and other cutaneous eruptions, of affections of the joints, &c., considered as gouty, but amenable to the treatment of syphilis.

We had marked some valuable observations in the fourth chapter on the morbid anatomy of gout in its structural changes, and in the fifth chapter on gout in the female, but we must leave to our readers the pleasure of perusing them for themselves.

The therapeutics of gout forms an extensive subject, about which much has been written; and our author divides its consideration into what he calls the *natural* and *artificial* treatment. The first, which we consider rather a doubtful expression, and which may better be replaced by the word *hygienic*, embraces the points connected with diet and regimen, a very useful chapter being devoted to these matters. Before entering on the medicinal treatment he discusses the cold-water cure, which has a chapter to itself, where he places it *between* diet and medicine, and calls on the physician to lay aside prejudice and em-

brace all that is useful in this agent. Mr. Wells, who certainly appears unbiassed in this matter, considers the hydropathic treatment dangerous in acute gout, and in chronic gout, when the amount of constitutional depression is considerable, which he thinks can be tested by watching the degree of reaction which ensues on sprinkling freely cold water over the surface of the body. In purely chronic cases, where a healthy reaction follows the free application of water followed by friction, he thinks it useful; and it may be applied by the wet sheet and local wet compress covered with oiled silk; the local douche is also often useful in stiff joints. The quantity of water to be drunk he leaves to the instinct of the party, who should take care not to overdo the matter. In summing up the whole he comes to a kind of compromise with the medical practitioner, allowing all these measures to be done at the patient's house under his guidance.

In the medical treatment of gout, the author is eclectic. He justly condemns blood-letting, though in some gouty complications local bleeding is useful. Purgatives should be used with caution, and the warmer kinds preferred. He discountenances the employment of sudorifics, thinking their effect not beneficial, and prefers, where perspiration is required, that the hot air or vapour-bath should be employed instead of internal sudorifics. He gives easy and simple directions for obtaining either of these baths at little trouble. His observations on diuretics are valuable, and will repay perusal.

Attention has lately been drawn to chemical solvents of uric acid, and he prefers the Vichy water, or Struve's imitation of it, to any other. He gives in detail the various kinds of solvents recommended by authors, but regards the iodide of potassium as the most useful, preferring small to large doses. This remedy is especially indicated in combinations of gout with syphilis. The value of colchicum as a specific he discusses at length, and gives the preference to the *tincture of the flowers* as the best preparation; ten minims of this every three hours in an acute attack, and the same two or three times daily in chronic gout, being as much as he deems necessary. In long attacks, doses of a homœopathic amount, such as one or two drops, with similar subdivisions of a grain or two of the iodide of potassium, he regards as exercising a slow but certain influence both in preventing and modifying the results of the disease.

We must here conclude our notice of Dr. Wells' treatise, from which we have received both information and pleasure. We recommend it to our readers as containing much valuable informa-

tion on a disease of great interest, especially to such as practise in large cities. Both in its pathology and therapeutics they will find much that is new, and more that is useful. The principles of treatment which he lays down are the result of experience, guided and applied by correct physiological views.

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*The Science and Art of Surgery, being a Treatise on Surgical Injuries, Diseases, and Operations.* By JOHN ERICHSEN, Professor of Surgery in University College, and Surgeon to University College Hospital. London: Walton and Maberley. 1853. 8vo, pp. 952.

IF he only can teach anatomy efficiently who has studied it carefully in the dissecting-room, or chemistry who has worked assiduously in the laboratory, assuredly none can give sound instruction in surgery or medicine, unless he who has learned disease from hospital practice.

The large surgical work before us has the recommendation of coming from the pen of an hospital surgeon, and it is gratifying to find that, where energy exists, a great undertaking like it can be achieved, notwithstanding the many disturbing circumstances which beset the private practitioner in a large metropolis.

We have often remarked that there is no more difficult task than to write a complete work on the theory and practice of surgery, and indeed, to suppose that a book embodying such a variety of material could be equally good in every point, and free from error in any, would be almost impossible; we are bound, however, to state, and we do so without wishing to draw invidious comparisons, that the work of Mr. Erichsen, in *most respects*, surpasses any that has preceded it. Mr. Miller's book on the Principles of Surgery reflects the highest credit on the author's learning, and so far as the theory of disease is concerned, may be considered as unequalled in fulness, clearness, and faithfulness of description. Mr. Erichsen's is a practical work, combining a due proportion of the "science and art of surgery," and certainly reliance may be placed on its statements regarding the leading points of practice. Some subjects are not as fully nor as satisfactorily dealt with as we should desire, but, as a whole, the imperfections of the work weigh very lightly.

The volume is separated into three divisions. The first treats of "first principles,"—inflammation, operations in general, amputations and disarticulations; the second of "surgical

injuries;" the third of "surgical diseases." We shall pass by the first part, and dwell on the second.

"*Effects of Injury*.—The effects of an injury, if at all severe are twofold,—constitutional and local. The constitutional effects are immediate and remote."

There is nothing to which the surgeon should pay more attention than to the effects of injuries. Most injuries, and we may say all surgical operations, are rarely in themselves fatal, their seriousness arises from the chance that some of the evils included in the above general division may supervene. One of the most serious of the remote effects is traumatic delirium: of it the author gives the following concise description:—

"*Traumatic delirium* not unfrequently occurs in cases of severe injury in individuals with an irritable, nervous system; particularly in those who had been drinking freely before, or were intoxicated at the time of the accident. It usually comes on about the third or fourth day, but not unfrequently earlier than this; and most commonly declares itself during the night. This disease presents two distinct types—the one inflammatory, the other irritative.

"In *inflammatory traumatic delirium* there is a quick and bounding pulse; hot skin and head, flushed cheeks, glistening eyes, much thirst, and high febrile action generally. The delirium is usually furious; the patient shouting, singing, tossing himself about the bed, and moving the injured limb regardless of pain. The treatment of this form of the disease is strictly antiphlogistic. Bleeding from the arm, or leeches and ice to the head; purging, and low diet will subdue it; but in many cases it is speedily fatal.

"The *irritative, or nervous delirium* usually occurs in persons of a broken constitution; and closely resembles ordinary delirium-tremens. In this form of the disease the pulse is quick, small, and irritable; the pupil dilated; the surface cool; the countenance is pale, with an anxious, haggard expression, and bedewed with a clammy sweat. The tongue is white, and there is sometimes tremor of it and of the hands; but this by no means invariably occurs. The delirium is usually of a muttering and suspecting character; the patient is often harassed by spectral illusions, but will answer rationally when spoken to. This form of disease is sometimes very rapidly fatal. A strong, hale man, but an immoderate spirit-drinker, admitted into University College Hospital with a simple fracture of the thigh, died of this form of delirium twelve hours after it first showed itself.

"The *treatment* of irritative traumatic delirium consists essentially in the administration of opium until sleep is procured, or the pupil becomes contracted. For this purpose large quantities are frequently required; and the drug should be given in full doses; from twenty to thirty minims of laudanum or half a grain of the muriate of morphia being required every second or third hour.

If there be much depression, it will usually be expedient to administer the opiate in porter, or in that stimulant to which the patient—if a drunkard—has habituated himself. The administration of the opiate should be preceded by a free purge and an aperient enema, so that all source of irritation may be removed from the intestinal canal. A strait-waistcoat is commonly necessary in all cases of traumatic delirium, in order to prevent the patient injuring the wounded part.

“After sleep has been induced, the quantity of the opiate must be lessened; but it will be found necessary to continue it for some time, as there will be a tendency to the recurrence of the delirium at night.

“These two forms of traumatic delirium, the inflammatory and the irritative, are often found more or less conjoined; in practice a modification of the treatment then becomes requisite,—the surgeon depleting with one hand, and allaying irritation and giving support with the other.”

The next chapter treats of injuries of soft parts—contusions and wounds.

In speaking of contused and lacerated wounds, the author observes—

“But the chief danger to be apprehended in wounds of this description is the supervention of gangrene. In these cases gangrene may occur in three ways:—

“1st. The contusion always kills a thin layer of tissue, which forms a slough on the sides or lips of the wound; but, in some cases, the violence done to the part is so great as directly to kill its whole substance. . . .

“2ndly. The injury may be chiefly inflicted upon the great vessels of the limb, damaging them to such an extent as to interrupt, completely, the circulation; gangrene being thus induced, indirectly, in the parts supplied by them. . . .

“3rdly. The true traumatic or ‘spreading gangrene,’ the most fatal variety of mortification, may occur from comparatively slight wounds, in consequence of some constitutional disorder; but most commonly it is the result of severe contused and lacerated injuries and fractures. . . .

“The peculiarities of this form of gangrene consist in the rapidity of its progress, its great fatality, and the tendency it has to affect and spread along the cellular tissue of the limb in preference to any other part. It is truly a constitutional affection, depending rather on the state of the blood than upon the local injury. Thus in some cases we see it follow comparatively slight contused wounds, whilst in others the most serious crushes and injuries may occur without it. It appears to be closely associated in its occurrence with those conditions of the system that dispose to the supervention of erysipelas, phlebitis, and other inflammatory diseases of a diffused or spreading character; and hence its great fatality. From the

other varieties of traumatic gangrene it differs remarkably, not only in the rapidity of its extension and the general appearance presented by the parts affected, but more especially in the little disposition it manifests to limit itself by a line of demarcation or by any adhesive action."

The great practical point connected with traumatic gangrene is the question as to the admissibility of amputation. Whether Potts' doctrine, that we should wait until the line of demarcation has formed, or Larrey's advice to disregard this rule, should be followed, has, for a long time, been made matter of active controversy. Mr. Erichsen says:—

"In all cases in which the true traumatic or rapidly spreading gangrene has set in, the surgeon will be placed in a great difficulty whichever way he act. If he leave the patient to nature, in the hope of a line of demarcation forming, he will almost certainly be disappointed, the gangrene rapidly spreading up to the trunk; and if he amputates, he will probably lose his patient by the stump becoming affected. Yet amputation should, in my opinion, be performed at once."

This latter observation requires qualification. To afford any chance of success there is no doubt that the earlier amputation is performed the better; but we cannot in all cases operate early in one sense, that is, before the gangrene has spread very far; for sometimes its extension is so rapid that an entire limb will become involved in a few hours. The rule which should guide us in determining whether the operation ought to be performed or not should have relation not so much to the time the gangrene has been in existence, as to the character of the accompanying symptoms. The fact that this is a constitutional disease demands the greater regard to symptoms. It is not then the extent nor the duration of the gangrene we are to consider, but the general condition of the patient; this is such as rarely to afford the operation any prospect of success.

*Injuries of Arteries; Hemorrhage.*—Can anything be more beautiful or better calculated to impress the mind with the wonderful and beneficial designs of Providence than the contemplation of the method to which nature resorts for the arrest of arterial hemorrhage? The very circumstance which excites the fear of the individual himself, or the bystander, the super-vention of weakness or fainting, is what most of all facilitates the means by which a temporary check is given to the bleeding, and which changes must occur before those which terminate in the complete occlusion of the vessel. The series of changes which take place in a large artery when divided transversely, from its retraction and contraction to its final obliteration,



tion, are truly wonderful, and afford a most attractive study to him who loves to investigate nature's laws. But it is not the physiological interest which attaches to this subject which is alone to be considered; the knowledge derived from the study of it has led to most important practical results. To Jones is undoubtedly due the credit of having clearly demonstrated most that is known of the laws which regulate the arrest of arterial hemorrhage; having, by a well-conducted set of experiments on animals established, the true changes which take place from first to last, he cleared away all previous erroneous notions.

Mr. Erichsen gives a very clear and succinct account of the natural and artificial means of arresting hemorrhage, bringing before the reader in a small compass a considerable amount of matter.

Traumatic aneurisms which are so closely associated with the subject of hemorrhage are also described, and wood-cut representations are given of that very interesting form of varicose aneurism. The author very properly shows the difficulty attendant on the operation for the cure of varicose aneurism. Fortunately however, the operation is seldom called for, and we feel quite convinced that, unless from some circumstance it is positively demanded, it ought not to be attempted. We can refer to the case of a man who has had an aneurism of this sort in the left thigh for upwards of ten years, the tumour having remained stationary, and not interfering with his taking exercise in any respect.

*Fractures*.—In speaking of compound fractures Mr. Erichsen observes:—

“Those fractures must be looked upon as most unfavourable in which the wound is the consequence of the violence that breaks the bone, and in which there is much laceration of, and extravasation into, the soft parts; more particularly if the integuments are stripped off, portions of the muscular bellies protruding, and the planes of cellular tissue between the great muscles of the limb torn up and infiltrated with blood. Injuries of this description occurring in the lower extremity always require amputation. In the arm, they are not so serious, and admit of the member being saved, unless the bones be greatly comminuted.”

We can only subscribe to this statement to a certain extent. It is true that if the soft parts be extensively torn, and the cellular tissue much infiltrated with blood, the case is bad, and always demands amputation. But it is necessary to draw a line of distinction between those compound fractures, which

must be condemned at once, and those where it is proper to endeavour to save the limb. In the latter cases it is not always those in which the integuments at least are much injured, which are apt to take the most unfavourable course; on the contrary, our experience leads us to consider that dangerous results are far more prone to occur where the wound is small, and particularly if it were produced by protrusion of the bone. Where the skin has been freely torn, or extensively injured by direct violence, the case for some days wears a very ugly aspect, but as soon as the sloughs have separated, healthy granulations spring up, and though the sore thus formed is often very extensive and attended with much suppuration, it is sometimes wonderful how rapidly the healing process is effected. With respect to secondary amputation in compound fracture, the author says:—

“*Secondary amputation* may become necessary from the occurrence of traumatic gangrene, when it must be done in accordance with the principles already laid down when speaking of that operation; but more frequently it is required from failure of the powers of the patient in consequence of irritative and asthenic fever, induced by the general disorganization of the limb, or by hectic resulting from profuse suppuration and slow necrosis of the bones. Under these circumstances, the constitution suffers from the local irritation which is the source of the wasting discharge, but by removing this in time, and seizing an interval in which constitutional action may have been somewhat lessened, the patient's life will in all probability be preserved; the results of secondary amputation for compound fracture under these conditions being by no means unfavourable. Indeed, it is remarkable to see how speedily the constitutional irritative and hectic symptoms subside after the removal of the source of irritation, the patient often sleeping well, and taking his food with appetite the day after the operation.”

Space will not permit our dwelling upon the other subjects in the second division of the work,—injuries of the head and spine, chest and abdomen. The observations on each of these important points, though short—unsatisfactorily short, in some instances—are based on sound practical principles.

*Third Division.*—This part of the work commences with the subject of abscess:—

“Surgeons divide abscesses into various kinds according to the symptoms attending them, their duration and cause. Thus they speak habitually of *acute* and *chronic*, *hot* and *cold*, *lymphatic*, *diffuse*, *metastatic*, and *puerperal* abscesses.”

The diagnosis of abscess is perhaps one of the most important points in practical surgery, and as no acquirement is more advantageous than acute perceptive powers in this respect, so there is none which should be more eagerly sought. Nothing so much displays the superiority of the well-educated and sagacious surgeon as the possession of this much-to-be-desired qualification. The capability of detecting deep-seated matter is of the utmost importance in the practice of surgery, and to accomplish this with quickness and precision must be viewed as a high perfection. The tactile sensibility necessary for such a purpose is possessed naturally by some, but almost all can, by practice, acquire it, and even those who are gifted with it by nature, should endeavour to refine it by education. The "tactus eruditus" has ever been considered as a qualification of the first order, and certainly, when the character of the surgeon's practice is considered, it becomes evident that without the possession of it his diagnostic capabilities must be of rather an inferior grade; and as regards many operative proceedings, a want of the necessary manual dexterity must be experienced. The author alludes to the fact that abscesses are apt to be confounded with solid elastic tumours. How often have malignant tumours been mistaken for chronic abscesses? Many a time has a lancet or trocar been plunged into a mass of cerebriiform cancer, owing to the deceptive feel conveyed by the elasticity of the substance. The more acute the tactile sensibility, the less the chance of being led astray by delusive sensations. There is one natural source of deception not alluded to by the author, and to which it is necessary to pay particular attention, viz., the many sensations produced by the rolling about of muscles beneath the hands. In some situations, for instance, on the anterior part of the thigh, when alternate pressure is made on the muscles, a sensation is yielded, which is often with difficulty distinguishable from that of fluctuation. The error is very apt to be made in the gluteal region; matter is often declared to exist there when not a drop is present.

In disease of the hip-joint the tissues in this quarter become infiltrated, so as to produce considerable swelling, and there is, at the same time, tenderness on pressure; a deep-seated abscess, accordingly, is suspected, fluctuation is sought for, and the deceptive feel alluded to at once leads to a wrong conclusion.

"The *treatment* of abscess presents three points requiring attention. The first object should be to prevent the formation of matter; the next to take steps for its evacuation when formed; and, lastly, to endeavour to close the cavity that results."

The second point is chiefly to be considered with respect to chronic abscesses. The rule as regards the opening of acute abscesses is simple enough; not so the chronic,—whether they are to be opened at all or not,—if they are, at what period, and how it is to be done, are points of the greatest practical importance, and upon them the greatest discrepancy of opinion prevails. We regret the author has not recorded his views on this part of the subject.

A short account being given of ulcers and mortification, the next disease introduced to our notice is erysipelas. The great importance of this subject, in a surgical point of view, imposes a greater duty on the author's pen. He adopts the division of erysipelas laid down by Mr. Nunneley as the best, viz., into the "cutaneous, cellulo-cutaneous, and cellular:"—

"The *cellular erysipelas*, or, as it is often termed, *diffuse inflammation of the cellular tissue*, or *cellulitis*, is a disease that has been particularly described by Duncan, Arnott, Lawrence, and Nunneley. It always arises from a wound or injury, often, however, of an apparently trivial character, and most commonly affects the sub-cutaneous cellular membrane, though occasionally it extends to the sub-aponeurotic tissue, and then is a more severe and dangerous affection. Though commonly arising as a consequence of ordinary injuries, it is especially apt to follow those in which there has been any inoculation of animal poisons, as in dissection wounds, the stings of insects, and the bites of venomous reptiles. In whatever way arising, it is characterized by the rapidity and extent of the sloughing of the affected tissue, and by great depression of the powers of the constitution. That the diffuse inflammation of the cellular tissue, whether it is limited to a finger, or implicates the cellular membrane of half the body, is a variety of erysipelas affecting this membrane primarily, and the skin secondarily, there can be no doubt. The points of resemblance between cellulitis and erysipelas have been well shown by Nunneley. Not only are the local effects precisely the same in the two diseases; the same swelling, tension, infiltration of pus, and formation of gangrenous shreds and sloughs, but the constitutional symptoms, though differing perhaps in degree, present no variety as to character. The results also are identical, there being the same impairment of structure locally, the same tendency to involve parts at a distance, and to the formation of secondary abscesses. So also these two diseases occur in the same constitutions, in the same states of the atmosphere, and in the same situation; one form of disorder may produce the other, and, lastly, the same treatment is required for both affections."

The author's observations upon the treatment of this disease are well worthy of attention. The plan of employing depletion, which was formerly so much resorted to, he very pro-

perly dissents from. He says, "the apparent intensity of the inflammation should not lead the surgeon into the fatal error of employing an over-active antiphlogistic treatment." In truth, there are few cases of erysipelas to be met with which will even bear the withholding of stimulants, not to say the adoption of antiphlogistic measures; and in bad cases, accompanied by a very low asthenic state of system, the only chance of recovery is, by pouring in wine and brandy as freely as possible. Perhaps no greater improvement has taken place in the treatment of disease than the administration of wine in inflammatory diseases of a certain character, and the recognition of this principle has been of no less value in erysipelas than in fever. Formerly the idea of giving wine where inflammation existed would be viewed as an irrational, practical, and physiological contradiction, and this is natural enough, seeing that the disease was viewed only as one of plus vitality. Since, however, physiological research has established that inflammation possesses two distinct types,—that genuine inflammation may exist with diminished as well as with increased vitality, the advantage of wine, as a remedial agent, has been fully recognised. More lives, we are confident, have been saved by the free use of stimulants in the asthenic types of inflammation than have been lost by the non-adoption of depletory measures in the opposite forms.

The next subject treated of in the work, to which we shall direct attention is Aneurism. One chapter is devoted to the pathology, diagnosis, causes, and treatment of aneurism in general; the other, to the special forms of the disease, including a description of the operation for deligation of the main arteries:—

"When the arterial walls have undergone more or less fatty degeneration, whether that consist in the distinct deposit of atheroma, or in a sort of molecular deposit of fat globules in the tissues comprising their coats, their natural elasticity and resiliency become lost, proportionately to the amount of fatty change that has taken place within them. Hence as the artery becomes less and less able to contract on its contents, and to recover during the diastole the tension exercised on its walls during the systolic impulse, it gradually becomes distended by the repetition of the shocks which it sustains, and thus either complete or partial dilatation of its cavity takes place. I believe that this loss of elasticity and of power of contracting on its contents, which eventually results in the dilatation of the vessel, never occurs except as the result of previous disease of the coats. In the very numerous specimens of dilated arteries that I have examined, I have never found one that had not undergone fatty degeneration, or atheromatous deposition. Calcification, on the other

hand, rather prevents dilatation of the artery, by hardening the coats and converting them into rigid inelastic tubes; but atheroma softens them, and causes yielding of that portion of the vessel affected by it. I have frequently observed that the whole of the artery may be healthy except at one part, where there was an atheromatous patch, and that there the vessel was dilated; or that the whole of its coats might be calcified except at one spot, where atheroma was deposited, and where consequently the coats had yielded under the outward pressure of the contained blood. This general or localized dilatation of the arteries is termed *aneurism*, an affection that is, I believe, invariably dependent upon the coats having been softened, atrophied, and disintegrated by fatty degeneration, and consequently yielding to the eccentric pressure of the contained blood."

With respect to the "true sacculated aneurism," the author says,—

"The existence of *true sacculated aneurisms* has been denied; thus, Scarpa doubts the occurrence of such a disease, and Bizot seems disposed to coincide with him. With these eminent pathologists, however, I cannot agree, and though I am willing to admit that many of the so-called true aneurisms are not so in reality, yet I cannot doubt from repeated observation that Hodgson is right in saying that in their early stages aneurisms are not unfrequently of the true kind. Thus, we occasionally meet, as Dr. Peacock has pointed out, with small digital pouches springing from the walls of some of the larger arteries, through the whole of which the external, middle, and internal coats can be demonstrated by maceration to exist; and in those aneurisms which are formed by the dilatation of a comparatively large portion of the arterial wall, it not unfrequently happens that the tumour remains of the true kind for some time, as I have had occasion more than once to ascertain by careful dissection. But after an aneurism has attained a certain size, its coats become so fused together, and so closely incorporated with the neighbouring tissues, that their precise structure cannot be made out. Indeed, for a sacculated aneurism to be of the *true* kind, I believe that two conditions are necessary: 1st. That the tumour itself be small; and, 2ndly. That the mouth of the sac be of tolerably large dimensions. Porter says, that he has never met with a true aneurism larger than a small orange, and, certainly, none of those that I have seen, provided they were of the sacculated kind, have exceeded this size. In true sacculated aneurisms, also, it is necessary that the mouth of the sac, or that portion of it which communicates with the interior of the artery, should be of a good size, and not bear too great a disproportion to the wall of the tumour. I cannot conceive a large sac with a small mouth to be a true aneurism, for, as the mouth of the sac corresponds exactly in size to that portion of the arterial coats which have been originally dilated, it is not easy to understand how a large sac can be expanded out of a small segment of the wall of

the artery; though, as in all cases of true aneurism, however small they may be, the size of the sac greatly exceeds that of its mouth, it is clear that there must have been, not only expansion, but a degree of hypertrophy and over-growth of the wall of the vessel, just as in the tubular aneurisms."

We think there can be no doubt of the existence of a form of aneurism in which the sac is composed of all the coats of the vessel. We have in our possession a specimen of popliteal aneurism which affords a beautiful example of the true kind; all the coats can be distinctly traced from the vessel to the sac.

With respect to the treatment of aneurism by compression, it is gratifying to find that the author deals fairly and candidly with the subject.

Though this great improvement in modern surgery has not met with the decided opposition in England that it has in Scotland, still it has not, even at the present moment, taken a proper stand in the former country. It is true, that many cases of cure by compression have been reported from various parts of England; still it does not appear to have gained the full confidence of the profession. In Ireland, where the adoption of this plan originated, numberless cases have been cured by it; hardly a week passes by without the occurrence of some successful case to swell the statistical Table, so that not the smallest doubt can be entertained of its perfect adequacy to effect a cure, while its advantages over the ligature must become evident. It may be argued that the statistics of this method of treatment in England do not warrant the same conclusions; then we naturally inquire why this dissimilarity as to results should exist? To what cause is attributable the failures in the sister country? The answer is twofold,—first, all the details of the plan are really not yet perfectly understood;—second, there still exists, as it were, a latent prejudice against, or want of confidence in it, as a curative method, which prevents that degree of attention being devoted to it which is essential to the success of any undertaking; and it is only natural to suppose that if the practitioner exhibits a want of confidence in the plan adopted, the patient will not be likely to become differently inspired. If compression is to succeed, an accurate knowledge of its *modus operandi* is indispensable, combined with patience, perseverance, and constant watching. The author concisely expresses the very point which we wish to put prominently forward; he says:—

"The success of the treatment by compression depends greatly upon a scrupulous attention to a number of minor circumstances,

which, though trivial in themselves, become of importance when taken as a whole."

A description of the plan of compression is given which is as full, perhaps, as could be expected in a work of so general a character. The view taken of the relative merits of compression and the ligature corresponds exactly with our own, and is no more than was ever put forward by the advocates of the former method:—

"It should also not be forgotten that in some cases, such as when aneurism is complicated with heart disease, or occurs in a very broken and unhealthy constitution, in which the operation necessary for the application of the ligature would scarcely, or not at all, be admissible, compression may be safely employed."

The following observations on the diagnosis of carotid aneurism are worthy of attention:—

"From abscess of the neck the diagnosis must be made on general principles; the co-existence of ill-defined hardness and of enlargement of the glands, of an inflamed state of the skin, the ready detection of fluctuation, and the absence of expansive pulsation in the tumour, will show that it is not aneurismal, however similar its other characters may be. It is also of importance to observe, that an aneurism that fluctuates is always forcibly distended with strong pulsation, and can be materially diminished by pressure; neither of which circumstances can possibly occur in abscess. But if abscess may be mistaken for aneurism, the converse also holds good, and an aneurism may, unless care be taken, be mistaken for abscess; a far more fatal error. And there is one variety of false aneurism, that to which Mr. Liston has invited special attention, against which the surgeon must be carefully on his guard, on account of the many points of resemblance between it and aneurism; I mean the case in which an artery has given way into the sac of an abscess. In this case, fluctuation and pulsation will exist, although not, perhaps, of a distending kind. An important diagnostic mark will be, however, that the outline of an aneurism is distinctly defined and limited, while that of an abscess never is. Aneurism of the internal carotid has been found by Syme to simulate very closely abscess of the tonsils."

We fear we have dwelt too long on the preceding subjects to enable us to make even a passing observation on the many important points which follow; suffice it to say, that the author fully bears out, in the subsequent pages of the work, the high opinion he earned in our estimation from a review of the former:—diseases of the bones, joints, and rectum, hernia, urinary diseases and affections of the testis, are each dealt with in



the same sound, practical manner which characterizes his description of the diseases we have particularly considered.

We now close the pages of Mr. Erichsen's work, having derived no little instruction from it in many important branches of surgery, and we have no hesitation in recommending it as a valuable book alike to the practitioner and the student.

*Dictionnaire d'Hygiène Publique et de Salubrité, ou Répertoire de toutes les Questions relatives à la Santé Publique, considérées dans leurs Rapports avec les Subsistances, les Épidémies, les Professions, les Établissements et Institutions d'Hygiène et de Salubrité, complété par le texte des Lois, Décrets, Arrêtés, Ordonnances et Instructions qui s'y rattachent.* Par le Docteur AMBROISE TARDIEU, Professeur agrégé à la Faculté de Médecine de Paris, etc. Paris and London: Hippolyte Baillière, 1852 et 1853. Vols. I and II. 8vo, pp. 567 and 532.

THE very comprehensive title of this work sufficiently indicates the variety and extent of the information it contains, and we need therefore scarcely say, that M. Tardieu has conferred a great boon not alone on his own countrymen, but on all in these islands engaged in the study of medicine in any of its medico-legal branches. The much higher position which State medicine holds in France, and the consequent greater advancement which it has attained, is well illustrated by a reference to any of the leading articles in either of the volumes of this as yet unfinished book. As soon as the concluding volume, which is announced for immediate publication, shall reach us, we purpose to bring under the notice of our readers some of the more important matters treated of; in the mean time we can most strongly recommend it as being complete and accurate, and as presenting a full review of the laws and history of all subjects connected with public hygiene.