growth of fat in any one of these parts, unless there is a tendency to obesity displayed in a proportionate manner in all the others. This remark does not apply to animals so strictly as to the human being, for fatty tumours are occasionally developed in them about the internal organs. In the College of Surgeons there is a remarkable specimen of a fatty tumour of the heart, taken from a sheep which had breathed with difficulty during life. The tumour evidently consists in an enormously hypertrophied state of the fat naturally existing about the heart, for it surrounds the whole organ, obscuring, compressing, and destroying the muscular substance, and forming large masses which project into the auricular and ventricular cavities.

The diagnosis of fatty tumours is for the most part easy; their connexion with the skin, their elastic feel, their lobulated margin, generally inform us of their nature with sufficient certainty. Sometimes difficulties arise. I have known a large malignant growth of the back mistaken by an eminent and experienced surgeon for an adipose tumour, and the operation for its removal was commenced before the error was discovered. As a general rule the time of duration of the swelling would assist materially in the diagnosis between fatty and malignant growths; a tumour of the latter species simulating fat would be rapid in its progress, whereas the former are generally slow. In the case just referred to no information on this point could be derived from the history, the patient not having been aware of the presence of the swelling till it had attained a large size, and was discovered accidentally by his wife. Again it has often happened, that the surgeon in the midst of his operation has been startled by a sudden gush of pus from the supposed adipose tumour, and has been thereby informed, to his surprise, that he was treating an abscess. Of the liability to this mistake I have already spoken to you. There is no sure means of avoiding it without resorting to the grooved needle; this little instrument you need not scruple to use where there is a doubt; it will do no harm, and may save you from the somewhat annoying exposures which surgeons who neglect such precautions are sure occasionally to meet with. The mistake is not a very serious one, for it is often the best treatment of a chronic abscess, with thick indurated walls, simulating a tumour, to cut it out, when this can be done without danger.

It is sometimes difficult to form a correct opinion of the connexions of a fatty tumour; the several parts of the tumour move easily one upon another, and you may find a prolongation of it extending deeply into the limb without there having been any sign of its doing so before you commenced the incisions. Mistakes have also arisen about the position of the tumour; it has been found underneath the fascia when thought to be subcutaneous. In one instance I have heard of a surgeon opening the abdominal cavity in search of a tumour which was supposed to be subcutaneous, or, at any rate, superficial. It was a fatal mistake, one you would think that might easily have been avoided, but it is really not always so simple a matter as it would

seem, to decide whether a tumour is beneath the peritoneum or in the superficial parts of the abdominal wall. Let this, therefore, be an additional warning against hastily and carelessly setting about an operation for the removal of a fatty tumour; the very fact of the operation being generally an easy matter, renders it the more necessary for you to be on your watch against the difficulties attendant on exceptional cases.

Fatty tumours are very seldom the subjects of any changes in their composition. They are already of so low and simple a structure, that they can scarcely degenerate to an inferior condition, and they are found to remain sometimes for many years without growing, and without undergoing any appreciable alteration of structure, it may be even without alteration of shape or size. Neither are they liable to inflammation, except under some peculiar circumstances, such as exposure to severe injury. Now and then an abscess has been found in a fatty tumour, or the mass has sloughed away, but these are very rare events, and are to be regarded as accidental.

ON THE PRESENT STATE OF THERAPEUTICS.

By CHARLES BECKETT, Esq., HULL.

Read at the Eighteenth Anniversary of the Provincial Medical and Surgical Association, held at Hull, August 7th and 8th, 1850.

"The materia medica of the rational physician is also a physiological doctrine, for it occupies itself in the endeavour to obtain an insight into the mode of action of the remedies on the organic matter."—British and Foreign Medical Review, October, 1847. p. 295.

AMONG the various peculiarities which distinguish the present from all previous epochs of medical science, the position and prospects of the department termed therapeutics, or the application of remedy to disease, stand perhaps pre-eminent in interest and in grandeur. Never, perhaps, had rational medicine to contend with a more formidable array of presumptuous and abortive empirical systems parading their rival claims; whilst, happily, she never was in a better position to vindicate her legitimate and unassailable superiority, and not only to maintain a defensive, but in the eyes of all competent observers to carry on an aggressive warfare. Indeed, it would seem, that while other systems have sprung into existence, fully complete, at once armed at all points, like Minerva from the train of Jupiter, and like her, in some instances, greeted by a shower of gold, the votaries of rational medicine have generously neglected, as it were, their corporate and merely professional interests, in order that they might noiselessly, patiently, and humbly, sit as learners in the great school of Nature, poring over her profoundest secrets, watching her most recondite phenomena, and following step by step the footsteps of her great original, through the vast field of organic life.

The consequence of all this is, (although public opinion may not at present be an infallible appeal owing to the incapability of weighing the evidence,

which must naturally attach to it,) that in medicine, as in other things, "Wisdom is justified of all her (true) children," and the most implicit confidence in the great truths upon which medicine, as an art, is based, is conceded by those who are the most fully acquainted with her resources for the requirements of the sick and diseased.

It is true that many chasms require to be filled up: many obscure corners illuminated;—many unintelligible characters to be deciphered;—perhaps a few apocryphal traditions to be thrown aside; but this is only another proof of the modest pretensions of our present position, and a presumption in favour of the truthfulness of our views.

Disease and remedy have been in direct antagonism to each other ever since the love of life and health have coexisted in man, with proclivity to death and disease. Man has from the first opposed his best efforts to the pathological derangements of his ordinary ease, strength, and efficiency, and fought valiantly, if not skilfully, with his last enemy. But with therapeutics in ancient times, experience derived from experiment, accidental or designed, seems to have long preceded rational inference and principles of action in treatment. The story of the discovery of the antiperiodic power of cinchona, by the fall of some trees into a pond or lake, seems to shew how accident might lead to the systematic adoption of the remedy in a given disease; and yet the *principle* of its action—the therapeutic relation of the remedy to the disease—might be imperfectly or not at all understood, and perhaps little cared for. What is strange about the matter is, that we have been so long accustomed, as a profession, to sit down with the mere observation and recording of therapeutic phenomena, with scarcely an inquiry into the *true modus operandi*—speaking in the widest sense of the term—of our remedies; in short, that we have been so empirical, and so little aroused and interested by the acknowledged results of our efforts.

This reproach is at length wiped away. Let any one examine the current medical literature of the day, and he will find that the last charge which could be sustained against us is, that we are indifferent to the destination of our remedies, and to a philosophical appreciation of their true value and action. The sanction of experience is never in danger of being derided or undervalued. When did opium, or mercury or quinine, antimony or iodine, stand more secure in their respective reputations than at present, when along with a due recognition of *her* teachings medical science affords a sifting analysis of the phenomena she furnishes. Not only do we fully grasp and comprehend ascertained truths, but are led to extend our resources and infer the operation of untried compounds, so that experience often now lends her sanction to truths gained, not by experiment, but by analogy and philosophic induction. Henceforth an enlightened pathology must be the mould from which therapeutics must take its form. Chemico-physiology and chemico-therapeutics must go hand in hand.

We have ceased to content ourselves with the mere

observation of physiological *phenomena*, such as the specific action of a purgative, diaphoretic, diuretic, &c.; and we are disposed as little as possible, to take shelter under the old covert of "specific influences"—simply as such. We find that one therapeutic fact or observed phenomenon oftentimes involves a series of phenomena of a more recondite, and yet of a more elementary character; as for instance, the operation of a saline purgative, that of endosmotic action, &c.; and we thus seek at least to arrive at the very theatre of actual operation, and to cast down the barriers that would limit our inquiries and darken our conceptions.

"No longer fenced off from this inquiry by the flimsy barriers thrown up in past days by high sounding words or the convenient doctrine of 'specific power,' as an ultimate cause of therapeutic action and vital phenomena, the universal search is for the elements of a broader and more truthful generalization, which suborns *specific influence* as merely one of its apparent forms and manifestations." Page 5, my paper on Therapeutics.

But to proceed more particularly to my present purpose, which is, with all deference, to allude to the view of therapeutic agency which has afforded much pleasure to my own mind for some years past, and which I find is sharing the large attention of most distinguished observers. I need only allude to Dr. Golding Bird, Dr. Garrod, Dr. Bence Jones, Dr. Chambers, Mr. Simon, of London, the late lamented Dr. Prout, Dr. Carpenter, and others. I allude to the relation of the ultimate principles of a remedy to the ultimate structures it is intended to influence and to restore.

In arithmetic we often gain great clearness of apprehension by reducing two fractional sums, having important relations to each other, to the lowest denomination; we carry out the same process in both instances, and thus see much more readily the relation of the one to the other. So in chemico-pathology and therapeutics we may examine the composition of the agents we employ, and also scrutinize the tissues which they are to affect, and the result is often the clearing up of previous difficulties, and the permanent extension of medical science. In fact, (as is well expressed by the Editor of the late *British and Foreign Medical Review*), "the *materia medica* of the rational physician is also a *physiological doctrine*, for it occupies itself in the endeavour to obtain an insight into the mode of action of the remedies on the organic matter."

Medicine thus practised appears to me to stand in a new light—to be, in fact, *organic medicine*; inorganic it is true, in itself, but often the direct product of organization, (vegetable or animal,) and holding direct relations to the organized and living system—to the blood, nervous matter, and various tissues. Nay, so direct is the relation of certain remedies to the complaints we are called upon to treat, and so obvious their value, that they encroach upon the department of diet rather than of medicine, as usually understood, and might be justly termed "dietetic medicine." Such, for instance, are soda and the alkalies in acidity, iron in anæmic forms of disease, liquor

potassæ in obesity, or sarsaparilla with alkalies as a depurant.

Dr. Golding Bird alludes to the *modern* revival of the humoral pathology. This is a great truth; yet how much is now known of that complicated fluid, the blood, and its various changes, of which the old advocates of the crude humoral pathology were totally ignorant! In the hands of former pathologists the humoral doctrine was almost as absurd as the more recent "*similia similibus*" dogma, and was as unworthy of reliance.

There is, I believe, a fear entertained by some that chemistry is destined to prove inimical to practical medicine. Some who would pore for whole nights over a microscopic object, or dissect with painful minuteness a delicate structure, may yet have serious misgivings as to the analytical inquiries and simple inductions of organic chemistry. But we must ever remember that chemistry goes farther than anatomy in the disintegration of structures, pursuing them into the recondite recesses of insensible distances, and intangible changes—changes which elude the keenest eye, the most powerful lens, and the sharpest blade. Further, as every act of nutrition, of secretion, and metamorphosis, is known to involve chemical changes, permanency of structure nowhere being found, a most laudable curiosity is naturally excited as to the precise nature of the changes which are constantly going on. Instead, therefore, of these researches tending to degrade and limit our conceptions and views, I conceive they must have an opposite effect, teaching us how much is vital, and how much is subject to ordinary laws, in the wonderful activities of the living structures.

We thus learn to distinguish the vital from the chemical effect of an agent, and to recognize in the actual result the concurrence of the two. Thus, for instance, alcohol, as a pyro-carbonaceous fluid, is a good supporter of heat, but alcohol is an exhausting stimulant; hence it is not considered eligible as a means of repelling extremes of cold in arctic or polar voyages.

The importance of a clear apprehension of the chemical, or, as I might say, *organic* relation of our remedies to the system, becomes more apparent when we look at the constitution of the normal fluids and tissues. Man himself is but a formula, his blood in the healthy state is as truly a recipe as any that ever issued from the pen of a physician; and if we quit the domain of medicine for that of necessary aliment, we find that the conservation of the original proportion of elements has been beautifully provided for in the complicated composition of those animal and vegetable matters and fluids by which he is sustained. Thus, as Dr. Garrod has shewn, the lack of vegetable matter and the deficiency of the potash salts therein contained, leads to scurvy, because of the *loss of its depurating power* acting through the kidneys; and many similar cases might be adduced.

But to be more particular. In order to illustrate the philosophical character of modern therapeutics, and the firm basis upon which it reposes, I may select a few

simple instances which may be regarded as *types* of others which cannot now be mentioned. I shall adduce four, considering them in relation to that pabulum of all the tissues—the blood. Thus,—

1st. *Required* a remedy which shall be absorbed into the blood, effect important changes in it, and pass out of it unchanged or undecomposed. Or,—

2nd. A remedy which shall pass into the blood, being itself decomposed, and by its base promoting changes in albuminous tissues, and itself uniting with, and carrying off, the phosphorus, sulphur, uric, and lactic acid, the debris of metamorphosed tissue. Or,—

3rd. A remedy which shall be capable of, and destined for, a participation of blood-life, becoming changed into hæmatin. Or,—

4th. A remedy which shall tend to increase the spissitude of the liquor sanguinis, by acting as a coagulant upon its albumen.

Now, I have selected four by no means rare or imaginary cases, in order to show the remedies so employed in a more striking light.

The first indication is met by that valuable remedy the nitrate of potash, which, although it enters into the circulation, and passes off by the kidney, yet undergoes no decomposition—a remark which, I believe, applies to all salts formed by mineral acids; still it is a most potent remedy, brightening the colour of the blood by rendering the globules compact and small by the endosmotic power of the liquor sanguinis, and thus greatly favouring the circulation in inflammatory engorgements, by adding, for the time, to the proportion of its fluid part, at the expense of the red particles.

Our second remedy is a carbonate or vegetable salt of soda or potash—citrate, tartrate, or acetate—the base of which has a disintegrating power with regard to albuminous matter, and by its affinity with phosphoric, sulphuric, lactic, and uric acid, a direct influence in promoting the metamorphosis of tissue, and increasing the solid contents of the urine. This has been fully shewn by the researches of Dr. Golding Bird, and harmonises with the testimony of general experience.

The third remedy required—one capable of, and destined for, a participation of life in the form of hæmatin,—will be at once recognized as *iron*. How striking are the manifestations of its effects in formidable forms of anæmia and chlorosis, forming, as I often think, one of the easiest and yet most striking triumphs of scientific medicine, and illustrating the relation between disease and remedy.

Fourthly. The type of a remedy, which by its peculiar relation to albuminous fluids, shall tend to inspissate the liquor sanguinis, and thus to be of singular use in defluxions and hæmorrhages, is *lead*. Mialhe has shown this action upon the blood to be the chief cause of its value in such cases, forming, as it ever does, (where possible,) a solid coagulum, which is afterwards dissolved by alkaline chlorides. I had myself, during the past year, an ample opportunity of testing the value of this remedy (as prescribed by Dr. Graves) in choleraic diarrhoea and serous purging, and found

it in early cases almost to supersede the necessity of every other remedy. The result of my observations were published in some papers in the *Medical Gazette* last autumn.

Thus we have considered four classes of remedies in their relations to the blood; one passing through it unchanged, though far from inert; a second, itself decomposed, and the instrument of chemical change, the products of which it invariably carries off with it by the renal excretion; another which forms a constituent of the living fabric at least for a time; a fourth which, acting in as out of the body, tends to incrassate the living blood, and thus to oppose hæmorrhage and flux. The last might be greatly amplified.

The direct relation of Liquor Potassæ to obesity and fatty tumour; of the Ol. Jecoris Aselli to phthisis; of alkalis to the various forms of lithiasis, acute rheumatism, and gouty diathesis, need only to be pointed out.

The undoubted influence of endosmose and exosmose, in modifying the action of saline purgatives, is worthy of careful attention.

In a paper read before our own Medical Society a year or two ago, I ventured to throw out the following propositions:—

1st. Saline solutions of different densities are always in a state of active relation to each other, in or out of the body, which relation constitutes a *distinct force*.

3rd. That in therapeutics it is an inverse ratio to the *vital force* which is opposed to it.

5th. That the operation of this force may induce abdominal congestion, from the continued use of even *weak* salines in fever, &c., where the tone of the capillaries is impaired, and thus, perhaps, prove injurious.

6th. That this force may act as a powerful derivative in local congestion, &c., even where no purgative effects follow.

It is worthy of note as connected with the action of the salts, that all saline solutions purge if strong and concentrated, whereas most purgative salts excite *simple diuresis* if *weak*. When purging is the result, fluid albuminous dejections are known to be the result. In fact we may divide the action of all saline remedies into two parts—their *extra-vascular* or *visceral*, and their *intra-vascular* or general effect.

Before I close these desultory observations I would allude to the *alkaloids* and other organic products considered in their relation to the nervous system.

Will it ultimately be found that this class act by modifying the *nutrition of the nervous matter*, owing to their own elementary composition? Dr. Carpenter states, in his recent essay (51,) that “Epilepsy is now generally attributed to a disordered state of nutrition of the brain, of which the *paroxysm* is the *manifestation*.” Does this also apply to the operation of over-doses of morphia, chloroform, strychnia, veratrina, &c. &c. The transition from the recognized effect of alcohol, æther, and chloroform, which are believed to act by retarding and modifying changes in the blood, to the operation of opium, hyoscyanic acid, digitalis,

camphor, the volatile oils, quinine, caffeine, and their alkaloids, seems to be natural and easy. To point out precisely how these modify the condition of the nervous matter, some procuring sleep, some exciting wakefulness, and others imparting tone, is not so easy; but I cannot but anticipate the approach of the day when a patient and diligent inquiry shall have furnished us with the elements of a broader and more comprehensive generalization than we can yet boast.

Already we may see that scientific medicine alone possesses a foundation broad and deep enough to bear such a superstructure, and that such a time is approaching I can no more doubt, than that progress is the law of the human mind, or of the material universe. It must be admitted that the tendency of these inquiries and views is to modify our conceptions as to the range of function, which has been attributed to the “vital principle,” and even, as Dr. Golding Bird has said, “to show that it is *not* the active agent in controlling metamorphic changes.” We need not, however, fear that a minute search after truth will mislead us, or will ever contravene any great practical truth with which we are already familiar. No danger can arise so long as we bear in mind that this most engrossing inquiry is only *one aspect* under which the healthy and diseased organism must be viewed, and furnishes one of those pillars upon which the weight of the superstructure may be adequately supported.

We cannot, however, afford to lose sight of the aid thus lent to us in any case which may come before us. Whether we are called to treat the vast variety of blood diseases; anæmia or plethora; fever or malignant cholera; gout, rheumatism, or topical inflammatory action, these cardinal truths come to our assistance; in the host of atonic, painful, and nervous affections, they furnish principles of rational treatment; in diseases of nutrition and of function, we find them suggesting plans for our guidance; not only assisting our endeavours, but imparting a thrilling interest to that which would otherwise be a dry and dull routine; stimulating our inquiries, and giving point and efficacy to our remedial measures.

But we must remember that those are not wanting who affect to ridicule the variety of our resources; others pour contempt upon the principle of “combination,” to which we owe so much of our success; whilst each one with his peculiar panacea, be it what it may, is prepared to meet the most inveterate cases, and show us and the world “a more excellent way.”

The empirical routinist may find cause for alarm in such a war cry; the sceptic practitioner is only brought thereby into closer contact with “first principles.” Were man a being independent of aliment, respiration, and excretion,—were not nutrition and waste constantly changing his physical identity, we might disregard the minute application of our remedies, and even listen to those who would regard “drug medication,” as it is termed, as unfounded in analogy and in nature; but then the reverse of all this is the case.

A due attention to the *modus operandi* will tend to guard us from the *nimia diligentia medicinæ*, as well

as from hurtful excesses in the use of remedies, and thus rescue scientific medicine from one of its gravest calamities. As our ideas become more clear our determinations become more definite and vigorous; we handle our weapons with a firmer grasp, and wait confidently for the desired result. Thus, depending though we do upon the sanctions of experience, we still are as far as possible removed from a blind and unworthy empiricism, and moreover, find, in a day thus employed, higher enjoyment than would be found in a life-time of mere routine, hap-hazard, and uncertain drudgery.

SUCCESSFUL CASE OF OVARIOTOMY.

By C. H. CORNISH, Esq., F.R.C.S.,

SURGEON TO THE TAUNTON AND SOMERSET HOSPITAL.

Read at the Quarterly Meeting of the Bath and Bristol Branch.

LUCY BOWYER, aged 19, a lace mender, from the neighbourhood of Chard, Somerset, was admitted as an in-patient at the Taunton and Somerset Hospital, under Dr. Woodforde, on the 25th of August, 1849. Stature five feet five inches; conformation slight but well proportioned; sanguineous temperament. She stated that she had good health to her sixteenth year, when she suffered from general debility, with pain in the left hypochondrium, and palpitation of the heart, which was attributed to her rapid growth. The catamenial discharge commenced at the age of fifteen, was regular, and of moderate quantity, appearing every three weeks, and lasting three days, until she was seventeen, when it was suppressed for six months. On its re-appearance it occurred every month, and was increased in quantity, lasting from five to seven days.

In September, 1848, whilst confined to bed by a slight febrile attack, she first became aware of a tumour about the size of an orange, a little to the right of, and below the umbilicus, not painful on pressure, and apparently unconnected with the existing illness. It gradually increased in size, but caused no inconvenience, except in the act of stooping. Her carriage resembled that of a woman in the fifth month of pregnancy, and the suspicion of pregnancy being a source of anxiety to her friends, she had consulted several surgeons, and had been subjected to some slight treatment. On examination a firm tumour was at once distinctly perceptible extending from the right iliac region obliquely to the left hypochondrium, giving the sensation of solidity. It was freely movable in every direction; its form was round but uneven, there being a slight projection on its left side; very indistinct fluctuation could be detected, and auscultation elicited no sound. The abdominal circumference over the tumour was thirty-three inches. She consented to an examination *per vaginam*, when the hymen was found perfect; the cervix uteri small and rather high; the os circular. Raising or depressing the tumour did not alter the position of the uterus.

Having satisfied himself that the tumour was ovarian, Dr. Woodforde explained its probable course to the patient; and considering that such treatment as was calculated to arrest its progress, or lead to its absorption, likely to be prejudicial to her otherwise excellent health, he proposed to her either to let it take its own course, meeting each new symptom by such palliative treatment as might be deemed advisable, or to consider whether she would risk the operation for its removal, the dangers of which were fully explained to her. Its progress was watched during a month in the hospital, and at the end of September she was made an out-patient, requested to present herself at the hospital, and in the mean time to consult with her friends respecting the proposed operation, to which she seemed already inclined to submit.

On the 1st of December she returned, having obtained the reluctant consent of her friends to the operation, on which she was herself now fully determined; but, influenced by the consideration of its danger, she proposed to pass the approaching Christmas with her friends, if the delay would not increase the risk. At this date the circumference of the abdomen had increased to 34 inches. Sir George Ballingall, Professor of Military Surgery at the University of Edinburgh, happening to be at the hospital, kindly examined the patient, and concurred in the opinion that the tumour was ovarian.

On the 4th of January, 1850, she was again admitted into the hospital to undergo the operation. The measurement at the umbilicus was now 34½ inches; the increase was becoming more and more rapid; and her appearance resembled that of a person at the full period of gestation. The tumour was still freely moveable in every direction, and no adhesion could be detected by the most careful examination: it occupied almost the whole of the anterior of the abdominal cavity, resting on the pelvis, from which it could be pushed up a hand's breadth. Percussion gave a dull sound over the whole surface of the tumour, but on pushing it aside the clear sound of the intestines could be traced all round it, except in the right iliac region, pointing out the right ovary as the seat of the tumour. The uterus remained in its natural state and position, and was still unaffected by movement of the tumour. Fluctuation had become much more distinct, but unequally so, leading to the conclusion that the tumour was a multilocular cyst, and that a considerable portion of it was solid. The patient had two attacks of pain in the abdomen, following increased exertion, one of which subsided the following day, but the second was more severe; it occurred soon after her return to the hospital, and required the application of leeches, and confinement to bed for three days. This having subsided, on the 25th of January a consultation of the hospital staff was held on the case, and the operation unanimously decided on, and fixed to take place after the next catamenial period.

The patient was now transferred to Mr Cornish's care, who appointed February 13th for the operation; but as the menses appeared later than was expected, and lasted the unusual period of nine days, it was post-