Electro-Magnetic Apparatus has of late been much used in applying this agent therapeutically, and is very convenient, as we can so readily regulate its intensity. He believes that galvanism might be advantageously employed in cases of tetanus, since it has been proved that the excitability of the nerves may be enfeebled by the transmission of an electric current along them, when continued for a certain time. He mentions one case of this kind already published, in which he directed the application of electricity with apparent temporary benefit, but the case ultimately proved fatal. He does not, however, suppose, that the application of this agent would generally cure tetanus, but he believes that he is right in stating that it would have the effect of alleviating the severity of the pain. As the most formidable part of the disease of tetanus consists in an increased excitability of the spinal cord, any application of galvanism to the nerves leading to the convulsed muscles, would of course fail in removing the condition upon which the existence of the disease chiefly depends. With regard to the proposal lately made to destroy the opacity of the crystalline lens by means of electricity, on the supposition that the opacity depends upon the presence of coagulated albumen, he remarks, that he has never been able to dissolve coagulated albumen by the use of a galvanic plate even much stronger than what the eye could bear with impunity. It is, therefore, possible to form a cataract by the application of galvanism, but it is not possible to dissolve it. The electric current has also been proposed as a remedy in cases of stone in the bladder, but he remarks, that urinary calculi cannot be decomposed by the electric current, unless it be of great intensity, and used for a long time continuously. In speaking of its therapeutic effects, he does not refer to its successful application by Froriep of Berlin in cases of chronic rheumatism.1

The work of Matteucci is accompanied with an elaborate anatomical description of the nervous system, and of the electrical apparatus of the torpedo by Paul Savi.

A Practical Treatise on the Diseases peculiar to Women, illustrated by Cases, derived from Hospital and Private Practice. By Samuel Ashwell, M.D., Member of the Royal College of Physicians, Obstetric Physician and Lecturer to Guy's Hospital. pp. 737. London: Highley, Fleet Street, 1844. Part III.

We have twice expressed a very favourable opinion of Dr Ashwell's undertaking,—which the present Part brings to a close. The subjects embraced in the treatise are of extreme importance; and it rarely falls to the lot of one practitioner to have an opportunity of studying the diseases of females on so large a scale as the author of this work. For nearly twenty years, we are informed, in the Preface, he has had all the advantages afforded by the extensive lying-in charity of Guy's Hospital, in addition to his own private and consultation practice. The immense number of interesting cases, illustrative of the text, give us some idea of the extent of the field of observation upon which the views and doctrines advanced are founded; and the style of the work is always clear and perspicuous. It is, however, not a book well suited for analysis; the opinions advanced must be studied in connexion with the cases. We intend, therefore, simply to give the table of contents, and a few passages illustrative of the manner in which the various topics are handled.

Part III. contains,—Organic Diseases of the Mucous Membrane of the Cavity of the Uterus; Polypus of the Uterus; Displacements of the Uterus; Diseases of the Ovaries; on the Diseases of the External Organs of Generation in the Female. Appendix.—On the Morbid Consequences of Undue Lactation; Case of Pregnancy, complicated with Abdominal Tumours; Induction of Premature Labour.

1 Vide Froriep's Beobachtung über die Heilwirkung der Electricität, 1843.
Cases of the following description are fortunately rare:—

"I have never seen a true case of [uterine] tympanitis—one where the air has been the product of morbid secretion from the uterine vessels, and where, from closure of the os, it has been allowed to collect for weeks or months in the uterine cavity, and has then, either spontaneously or by operation, been expelled; but I have several times been called on to cure explosions of gas from the vagina, which, forming in the uterus, escaped involuntarily, and with so much noise, as to prevent the sufferer from venturing into society. In one patient, pregnancy always cured the disease; and Gooch confirmed the uterine origin of the gas in these slighter affections, by the fact, that in a patient of his, the instant pregnancy occurred the malady ceased, returning a few weeks after delivery. Idiopathic uterine tympanitis is no doubt an exceedingly rare disease. Physometra, on the contrary, dependent on chemical change in the secretions, although a rare, is a more common affection. Thus the menstrual fluid, the vaginal and uterine mucus, coagula resulting from menorrhagia or dysmenorrhoea, the ichor of cancer, portions of placenta or of polypi, may, by their partial or entire decomposition, give rise to larger or smaller quantities of gas. A few months ago I had to remove a large mass of partially adherent placenta, which for three weeks subsequent to labour had caused frequent and large hemorrhages. On entering the uterine cavity, which was partially blocked up by a firm coagulum, Mr Woolnough, a student of Guy's Hospital, and myself, were surprised by the escape of an immense quantity of fetid gas, doubtless the consequence of the putrefaction of the retained viscus.

"The Diagnosis cannot be difficult, for although menstruation is suspended, and the abdomen becomes enlarged, and, according to Frank, milk is secreted, still there will be so much elasticity about the tumour, and such disproportionate increase at an early period of the supposed pregnancy, that doubt must arise. This doubt will soon become a certainty as to the non-existence of gestation, by the partial or entire expulsion of the air, and by the consequent diminution of size. A fall or blow, even the sudden bending forward of the body, sneezing, coughing; or vomiting, have induced the discharge of the gas, succeeded by the escape of a more or less sanguineous fluid.

"Treatment.—In cases where such accidental circumstances have not led to the cure of the disease, or where the gaseous accumulation causes severe and extensive pain, nausea, and vomiting, or difficult breathing, the introduction of a canula, or a long and elastic, yet firm male catheter, will certainly open a channel for its escape. How long the instrument should remain, will depend upon the evacuation of the air, and on the likelihood of irritation and inflammation; nor will the management be quite so simple, if adherent masses of placenta, polyloid, or fungoid growths, are the causes of the disease. Some authors, in order to effect a permanent cure, advise the injection into the cavity of the womb of warm water, weak solutions of chlorine, and chalybeate and astringent lotions. My present experience, independently of the frequent dangerous results of such uterine injections, would lead me to believe that they can very seldom be necessary. The strong alum hip-bath, iron, the various tonics, (and in some protracted cases) mercury and sarsaparilla, may be required."—Pp. 503-505.

The author's remarks on pessaries we think, will be perused with interest and advantage:—

"Before describing the various kinds of pessaries, it may be well to dispose of the objections urged against these instruments, by Dr Hamilton and other writers. It is affirmed, that pessaries can only act as palliatives; that they cause irritation and leucorrhoea; that they make injurious pressure on the contents of the pelvis; that if not frequently removed, they become encrusted with a calcareous matter, which may lead to ulceration even into the rectum, putrid discharges, and fungous and malignant growths; that patients, while wearing them, have suffered from irritation of the bladder and protracted constipation; and that cases from time to time occur, where, from the laceration of the perineum, no ordinary pessary can be retained; and, lastly, that they subject the patient to the charge of the medical attendant for life.
It is not true, that pessaries never act but as palliatives. I have known many instances of their employment for several months, no other treatment having been resorted to, where a perfect cure has been obtained; so perfect, indeed, that on removing the pessary, the descent has not again taken place. But if this objection were allowed, it would detract but little from its value, as the recumbent posture, astringent injections, tonics and cold, are far more efficacious with, than without the pessary. Irritation and leucorrhcea may be produced; and I know there are patients, who, on these accounts, cannot wear it; but how few are these compared to the number where such evils subsist in a few days, if the pessary has been accurately selected as to size. I have often, indeed, heard the remark, that so far from there being annoyance, there has scarcely been any consciousness of the presence of the artificial support. That ulceration into the rectum, although probably not more than one such instance ever occurred, may have been occasioned by too large a pessary, or by its incrustation, cannot be denied. But how easily might such evils have been prevented! Surely if these dangerous consequences are not inevitable, they cannot be adduced against the judicious employment of the remedy. On one occasion at Guy's, I had some trouble in taking away a caoutchouc pessary, which had become hard from the calcareous deposit of eight or nine years, it never having been removed during the whole of that time; but on my making some severe remark to the woman on her neglect, she simply replied, that the comfort she had derived for the years she had worn it, far outweighed any suffering she had latterly endured. She went out of the hospital quite recovered in a few weeks, and never afterwards, at least to my knowledge, had a return of the procidentia. I scarcely know any cases where irritation of the bladder, strangury, or constipation, have continued beyond the first fortnight after introduction, if excessive exertion and errors of diet have been avoided. There are examples where, after replacing the parts and introducing a pessary, excitement, pain, and fever, run so high, that abdominal inflammation may be feared. In such, probably, the mischief is more consequent on the reposition than on the pessary; but be this as it may, the instrument should be removed, and the uterus permitted again to come down. Bleeding from the arm, fomentations and polities, leeches to the abdomen, and purging may be required; and for some days or weeks the attempt ought not to be repeated. If the pulse again rises, and the same evils are threatened, the reposition will be frustrated, and such a case may be one in which the uterus must remain procident. Laceration of the perineum certainly prevents the beneficial employment of the common pessary; but I cannot conceive why such an exception should be taken. These lacerations are happily exceedingly rare;—as compared with procidentia of the uterus the proportion must be small indeed; and it certainly cannot be fairly objected to any instrument, that it is not applicable to cases for which it was not designed. The circular ring pessary, the one in most general use, was intended to rest on the flooring of the vagina. Without such a foundation it cannot be employed, and this very flooring is often entirely destroyed by laceration of the perineum.

"Dr Hamilton lastly asserts, 'that pessaries subject the patient to the charge of the medical attendant for life.' Is not this contradicted by every day's experience? Women take out, wash, and replace the pessaries themselves. I have known many who do this, and who only apply to their medical attendant in some unusual emergency, or when they think the size of the support requires diminution. The pessary is certainly not a perfect instrument; but how rarely, in the treatment of diseases, have we the choice of remedies so good as to be without some imperfections. Does it not much more frequently happen that our choice is limited? Procidentia is an evil; the wearing of a pessary is an evil also; but it does not require any great discrimination to perceive, or candour to acknowledge, that the greater evil by far is the procidentia; and that the lesser evils of the pessary are merged in the benefits it so constantly confers.

"A good pessary should be light, hard, and smooth, and so accurately adapted to the size of the vagina, that whilst it supports the uterus, it should produce
neither pressure nor abrasion, and certainly not interrupt the evacuations of the bladder or rectum.

"To fulfill these conditions, the ingenuity of medical men has been largely taxed, and many pages would be required for a summary only of their various inventions. Gold, silver, lead, iron, sponge, cork, elastic gum, and boxwood, have all been used. The last is by far the best material, as it is light, and yet of hard texture, and so close in its grain, that it is not acted on by the discharges; being also, when well polished, perfectly smooth.

"The circular boxwood, or ring pessary, is that in most common use. Its edges are round and smooth, with a central aperture for the tip of the finger to alter its position, or to assist in its removal, and to permit the escape of any natural or morbid discharges. In the construction of this form, care should be taken that the outer margin is tolerably thick, by which better support is afforded to the uterus, and there is less risk of any injurious pressure or abrasion of the inner surface of the vagina. It is also of still greater importance, that the central hole be not too large. A small aperture will suffice for the purpose already mentioned; a larger one will allow the entrance and strangulation of the os and cervix,—an accident exceedingly painful to the patient, and perplexing to the practitioner. In a case lately, I had to scarify freely before the cervix could be set at liberty. It is probable, that many of the cases of inflammation, ulceration, or gangrene, have had such an origin. But this could never happen, if, instead of an aperture large enough for the thumb, as it often is, there be one so small as to admit only the tip of the fore finger. Loudly has for many years made all the pessaries used at Guy's on this principle. It is rare to hear any complaints of this pessary, when it has been of right size, and properly introduced; for, although I have tried every kind of abdominal uterine supporter, Hamilton's, Hull's, and several others, yet I find that patients give the preference to this simple, cheaper, and generally more efficient support. The perineal pad, the distinguishing feature of these more elaborate contrivances, is not without its disadvantages. I have one patient who never has the bowels relieved without removing the 'supporter,' and latterly, she has discontinued it altogether, because it produced great irritation and pressure about the vulva and rectum. The lady now wears a common circular boxwood pessary. Women, who can themselves remove and re-introduce this support, ought to be supplied with some of the same, and of lesser size, never using a pessary for a second time. If the assistance of a medical man is required, once in three, four, or six months will suffice, although, of course, exigencies may arise rendering more frequent attention necessary. Occasionally these instruments are worn for twelve or eighteen months without removal; and some months since I took one away which I had introduced four years previously. The patient had been in Van Dieman's Land during the interval, and had derived the greatest comfort from the support thus afforded. The uterus was so high up, and the vagina so healthy, that she has since gone through her daily duties without the pessary, and without any further descent. For married women this form is the best, as neither intercourse nor conception are prevented. Let it also be understood, that other remedial measures are not to be given up, as the time during which a pessary may be necessary, will much depend on the patient's persevering in the recumbent posture, and the use of astringent injections.

"But there are cases where, owing to the morbid capacity of the vagina, the hollow ball pessary must be used. This form also is best made of box-wood, with several holes for the escape of the discharges, and having affixed to one end a slip of tape, to facilitate its removal. Often this will be retained, when of proper size and well introduced, without any external mechanical contrivance; but where the dilatation of the parts is excessive, the plan of Sir Charles Clarke has succeeded well. But most surgeons are somewhat ingenious, and I frequently see inventions of greater or less utility, the half of which it would be impossible to enumerate." Pp. 561–565.

In the January number of our last volume we stated our opinion of ovarioomy, and intend reverting to the subject next month; but we cannot help, in the mean time, quoting the views entertained by Dr Ashwell.
"Prognosis and terminations.—The progress and termination of encysted ovarian dropsy have become subjects of the deepest interest, owing to the efforts lately made to cure the disease by extirpation. Whether this be a desirable, or even a defensible operation, must mainly depend on the known course of the disease, when either left to itself, or treated with a view to palliation only. If it could be proved, in the majority of cases, that the malady did not shorten life, and induce severe suffering, few more operations would be undertaken. But the examples of this kind are, it is to be feared, only exceptional; and yet I cannot divest myself of the idea, if our records were accurately kept, that a more favourable view might be correctly taken of the palliative, or indeed of any treatment which did not involve the necessity for this hazardous extirpation. Certain it is, that many women have lived to old age, who were the subjects of the disease; and although a less number comparatively survive many years after tapping has become necessary, yet a collection even of these would go far to prove, that paracentesis is not by any means so fatal, in this respect, as has been supposed. Sabatier examined the bodies of several women who had carried these encysted tumours during half a century, without alarming derangement of health; and the memoirs of the French Academy of Surgeons prove, that it may last fifty-eight years: while Nauche, as a summary of his own views, says, 'dropsy of the ovary, then, is not a very alarming disease, unless it be very voluminous.' The cases of frequent tapping recorded by Martinet, Portal, among other surgeons, amply attest the protracted duration of life in association even with this stage of the affection. Nor, in a calculation of this kind, must it be forgotten, that numerous women have become pregnant, and have been many times safely delivered, notwithstanding a dropsy of one of the ovaries. Such cases have fallen under my own observation, and I could add others also where the malady, although of considerable size, has existed many years without tapping, and without indeed any other than mere palliative treatment.

These considerations are entitled to great weight when determining the propriety of extirpation, uncalled for by present and great evils; or where the operation, from the enthusiastic views of its patrons, is urgently recommended as a preventive of mischiefs which they deem, but not always on good grounds, to be prospectively inevitable. To operate, where the patient strongly desires it, from a conviction that her sufferings, and the frequent repetition of paracentesis, will otherwise prove speedily fatal, may not involve any distressing responsibility, especially where the condition of the tumour leads to the supposition, that the case is pathologically a favourable one. But there are examples selected for operation far different from this. Take, for instance, a case which occurred to me a few months ago. A lady travelled to town from a considerable distance, anxious to have extirpation performed. On inquiry, I found she was sixty-two years of age, had never been tapped, although ovarian dropsy had existed for more than half her life. There was scarcely any suffering beyond weight and pressure, although the tumour was of immense size and partly solid. In such a case, it would have been highly culpable to have operated; and yet a surgeon, over-zealous about the removal of ovaries, had induced the firm belief that it ought to be done. I need scarcely add, that the patient, after being made acquainted with the great danger of the operation, was perfectly satisfied to remain as she was. Nor will the practitioner be less perplexed or distressed by such a case as the following, which occurred within my observation not long since:—A young woman, under twenty-two, had ovarian dropsy, her countenance bespeaking excellent health, and her history confirming the impression. Without interference many years might have been added to her existence; and as one of the fortunate accidents of life, it might have so happened, that the tumour should cease to grow. But unhappily she was convinced that extirpation was proper; the operation was most ably performed, and in a few days she died. These certainly are not the cases in which removal ought to be practised. If the operation is to become established, of which I have the strongest doubt, it must be confined to examples of the malady where tapping has already been so often performed as to preclude, from
the experience of similar cases, any idea that it can ever be dispensed with; 
and where, we are confident, that great suffering may lead to early death. 
Perhaps this may be regarded as too limited a view of the value of extirpation, 
but it is, I think, the correct one. In such cases, if the diagnosis excludes 
the belief that there are serious adhesions, or malignant or solid growths 
complicating the tumour, and if the patient strongly desires it, the operation 
is defensible. In all other examples it can only rest on the patient's own 
views of her future prospects, and on a calculation of chances. She might 
live many years, and without much suffering; but she may die in a few 
years after great suffering; she determines, therefore, being courageous, pro-
ably strongly urged by her surgeon, to run the risk of immediate death for 
the hope of immediate and radical cure. Whether she has done wisely to 
submit to such a hazard, a successful operation can scarcely prove; that she has 
happily secured her safety, through imminent peril, such an operation does 
prove. Lithotomy, operations for hernia, and for securing large arteries, rest 
on different grounds. That they are essential to the patient's life, is a full jus-
tification of their performance; for in all, even if not dangerous at the moment, 
it is certainly known that life will soon be destroyed, either by fever, gangrene, 
or loss of blood. Such, it has been proved, has not been the case in many of the 
fatal operations lately performed for extirpation of ovarian encysted tumours. It 
does not appear that statistics more favourable even than we have any right to 
expect, will materially change the aspect of the circumstances under which this 
operation is to be performed. It must, probably, from the impossibility of de-
termining the real character and adhesions of the growth, ever remain an emi-
nently uncertain operation. The extirpation, we are assured, by the operators 
themselves, in a fit case, is far from difficult—would that it were more so—for 
then it would not be so readily undertaken. If it required as much surgical 
knowledge and skill to make these large and brilliant abdominal incisions, as 
to tie the subclavian artery or to perform a trying operation of lithotomy, the 
lives of many women would have been already spared, and fewer would be sa-
crificed for the future. What would be thought of the feasibility of any other 
operation involving life in the most imminent hazard, if we discovered that out 
of 67 cases where it had been attempted, it was, from absolute error of diagno-
sis, incapable of completion in eighteen; that of the remaining 49 patients, where 
the extirpation was effected, sixteen died and two were not cured; so that out of 
the whole number 67, the operation failed in thirty-six and succeeded in thirty-
one, less than one-half. Such results are distressing, especially when we hear 
gno greater doubt expressed about the operation itself, but only higher confi-
dence in its value, and greater laudation of the operators. We willingly con-
cede presence of mind and ability to many of the extirpators of ovarian cysts; 
but we are unable to discover (for the later operations have been quite as un-
successful from unfitness of the cases as the earlier ones) that any advance has 
been made in diagnosis. Nor, when the tumours themselves are examined after 
death, when the malignancy of many of them is recognized, and their firm, al-
most indivisible adhesions, and their immovable masses of new and morbid 
substance are brought to view; it is next to impossible to entertain any san-
guine hope, that our means of diagnosis can ever be much improved.” Pp. 
646-649.

The author concludes some sensible remarks on the evils of undue lactation, 
by the following account of some of the morbid complications arising from this 
cause:—

“Functional Amaurosis, accompanied by congestion of the conjunctiva, is a 
frequent result of excessive lactation, and seldom fails, from its interference 
with the sight, to arouse the patient's fears lest vision should be entirely and 
permanently lost. These apprehensions may easily be allayed; as, doubtless in 
the greater number of cases, prompt weaning will alone remove the affection; 
still, it may be necessary, repeatedly to apply small blisters near the eye, and 
absolutely to forbid its employment. Improved diet, country and sea air; ex-
ercise out of doors, iron and quinine, are important remedial auxiliaries. Nor 
is it unimportant that quickly-returning pregnancy should, if possible, be
avoided. I have known several instances where, during a pregnancy immediately succeeding the exhaustion from over-nursing, the eye has been almost constantly in a state of "blood-shot" or congestion, and the sight excessively imperfect. Months, and even years, sometimes elapse, where able treatment has done its best before distinct and strong vision is re-acquired. Specks, and slight ulcerations of the cornea, are occasionally connected with the exhaustion and irritability of nursing. In all these cases, provided there be no serious organic change, the sufferer may be encouraged to expect the restoration of this most invaluable faculty.

"Several examples of jactitation have fallen under my notice. In one poor woman, an out-patient of Guy's Hospital, the seizures always occurred after she had nursed for three or four months; and they were so violent, that she was compelled to lay down her baby when they occurred, lest she should let it fall. In another young and hysterical patient, who had borne children very quickly, there was, during lactation, a continual and slight twitching, almost universal throughout the extremities, but especially of the face. In both, turning was necessary before the sixth month, more on account of leucorrhœa and general irritability, than for the jactitation.

"Epilepsy has been noticed by authors as the product of over-suckling, on the same ground as inanity; losses of blood, and deficiencies in its quantity and quality, are known pathologically to be productive of this malady; and I could adduce several instances where fits, difficult to be distinguished from decisive and unquestionable epilepsy, have occurred.

"Insanity, more or less permanent, may originate from over-lactation, commencing by peculiarity of sentiment or temper, and plainly evinced by pertinacious adherence to an opinion once formed, however erroneous; and scarcely at all more strikingly displayed than in a determined opposition to any advice having for its end an entire or even a partial weaning. In this early stage, the further advance or the protracted continuance of the malady might be prevented; but, instead of weaning, larger quantities of porter or wine, with animal food, are most improperly resorted to. Still the desired supply is not obtained. The stomach being weakened, is scarcely able to bear a diminished diet; fever and indigestion, apparent and temporary, not real strength, are the unavoidable consequence of this increased supply. Together with a continued sparing secretion of milk, the symptoms already described are aggravated. The insanity becomes positive and acute, the pulse quick and sharp, the skin parched, and the whole system deranged. The condition of the patient is no longer doubtful; her actions are often violent; and, without personal restraint, serious, perhaps fatal injury might be inflicted on herself and those around her. I agree, however, with Dr Locock, that the aberration of undue suckling is rarely of this serious kind, excepting where generous diet and wine are injudiciously administered; more commonly it shows itself in weakness and absurd ideas, in whim, and in caprice. In this stage, if weaning and careful treatment be adopted, the symptoms often subside easily and quickly; while in other cases, where probably a disposition to insanity exists hereditarily, the disease is of longer duration, requiring seclusion and confinement for its cure. If it be asked whether permanent insanity is ever the result of the aberration of undue suckling, I confess that I am unable satisfactorily to answer the question. In my own practice, such has never been its consequence; nor, so far as I know, have I discovered an example of the kind. The exhaustion of over-nursing induced the re-action and irritability on which the malady depends; and as this is gradually removed, by the formation of a larger quantity of better blood, the insanity passes away, and the individual slowly recovers her lost reason. It may perhaps be said, by those who regard this malady less seriously, that the insanity would have occurred independently of its intervention. The appended cases negative such an opinion. Additional confirmation is also furnished by the result of protracted lactation after another confinement. If, after such an event, more especially if the interval between the deliveries has been short, and the suckling be again protracted, a similar aberration will probably ensue, indicat-
ing the propiety of greatly curtailing the time of lactation, if not of entirely giving it up.

"It is not difficult to show many points of resemblance between this form of insanity and puerperal mania. The latter most commonly occurs in women of weakly, hysterical, and irritable habits; and, in the same class, over-lactation is most frequently witnessed. In the greater number of examples of puerperal insanity, a modified antiphlogistic treatment only, comprising small local bleedings, cordial aperients, particular sedatives, with animal nourishment and tonics, is most successful. The same may be said of the insanity from over-lactation. Puerperal aberration is rarely permanent, if insanity be not hereditary, and if improper treatment has been avoided. The same observations are true of the insanity of over-lactation. The former is disposed to recur in after-confinements; and the latter will show itself afresh, after successive and injudiciously-protracted nursings. There is, however, a marked difference in the frequency of the two diseases. The shock of parturition, the suddenness of the transition from pregnancy to the puerperal state, and the establishment of lactation itself,—all of which involve considerable changes in the circulation and in the nervous system,—sufficiently account for the prevalence of the one malady over the other.

"The pathology of these functional results of undue sucking is by no means intricate or doubtful. An impaired and attenuated condition of the blood, and a consequently depressed state of the nervous system, especially of the organic system of nerves, is the clue by which all the symptoms may be unravelled.

"I pass on now to notice what my experience leads me to believe to be a fact; viz., that very prolonged undue sucking may, although rarely, induce organic change in the brain, lungs, and uterus." Pp. 725-728.

We strongly recommend Dr. Ashwell's treatise to our readers as a valuable book of reference, on an extensive, complicated, and highly important class of diseases.

Principles of Human Physiology; with their chief applications to Pathology, Hygiene, and Forensic Medicine. By William B. Carpenter, M.D., F.R.S.E. Second Edition, pp. 745. 1844.

We are delighted to find ourselves so soon called upon to notice again this excellent work. The very rapid sale of a large impression abundantly proves that the medical community is fully impressed with its merits. Though the short space of two years has only elapsed since the appearance of the first edition, yet the contributions to this science have been so numerous and valuable, that the author has deemed it necessary to remodel it in several parts; and the chapter on Nutrition, including the history of the Chyle, Blood, and Tissues, has been almost wholly re-written. These different changes and additions have been made with that good sense and sound judgment for which the Author is justly distinguished. A considerable number of new wood-cuts, and a new plate have also been added to the present edition. This work as it now stands is the only Treatise on Physiology in the English language, which exhibits a clear, and connected, and comprehensive view of the present condition of that science.

Few individuals could have been found so well qualified as Dr. Carpenter for acting as the historian of physiological science. He is endowed with great perseverance and industry, possesses a clear and logical judgment, is able to see distinctly the salient points of the more abstruse and disputed doctrines, has excellent powers of generalization, and can express his thoughts in lucid and correct language. In explaining the general doctrines of the science, or in describing the phenomena attending the performance of individual functions, he lays before the reader a judicious admixture of the most trust-worthy facts with the inductions to which they lead, which cannot fail to give him a clear concep-
tion of each subject brought under his notice. When he ventures upon any new generalizations, he never indulges in dogmatical and bold assertions, but proceeds in a cautious and philosophical spirit; this cannot fail to exercise a salutary influence upon the mind of the student by repressing that tendency to hypothetical speculation, to which young and ardent minds are so prone. He emits no opportunity of pointing out, how the physiological facts and doctrines he is discussing, may be employed, in furnishing more scientific methods of treating disease.

Though it cannot be supposed, that any one exercising the privilege of independent judgment, could, in a work containing so very numerous details and inferences, agree with the author on all points, yet after a careful perusal we have found little which we would like to see altered, and still less from which we feel inclined to dissent.

Since the appearance of this volume, two treatises have been published, bearing upon three of the subjects there discussed, of which the author would doubtless have availed himself had it been in his power. In one of these,—the electro-physiological researches of Matteucci, of which we have given a summary in this and in the last number of our Journal,—he would have found additional confirmation of the Hallerian doctrine of irritability; some strong facts in favour of the opinion expressed by him that the vis nervosa and electricity are not identical; and an account of some very curious electro-physiological phenomena, such as, that a quantity of electricity is developed during the contraction of a muscle. The other treatise to which we allude, is a memoir on the Structure of the Vegetable Cell by Mohl, translated in the last number of Taylor's Scientific Memoirs. Dr Carpenter adopts Schleiden's theory respecting the formation of vegetable cells. Mohl makes the following remarks on the theory of Schleiden: "On the whole, I am inclined to consider the foregoing observations as confirmatory of Schleiden's theory respecting the formation of cells; on two points, however, I cannot but differ from Schleiden's views. One refers to the connexion existing between the nucleus and the nascent cellular membrane. Schleiden says that the latter grows out from the nucleus in such a manner that it is applied upon it like a watch-glass, and the nucleus forms part of the developed cell itself; to me, on the contrary, the cell membrane always appears to surround the nucleus in the form of a closed vesicle, and in many cases to lie at some distance from it, even at their first organization, so that in this case the nucleus is by no means in immediate contact with the cell membrane." P. 97.

We do not consider our knowledge of the formation of cells, and the transitions through which they pass in forming the various vegetable and animal tissues, so satisfactory as some physiologists seem disposed to do; and we agree entirely with Professor Sharpey, "that no branch of knowledge can be said to be complete; but there is, perhaps, none which can, at the present moment, be more emphatically pronounced to be in a state of progress, than that which relates to the origin and development of the textures, and much of the current opinion on this subject is uncertain, and must be received with caution." Though we agree in most of the interesting deductions drawn by our author, (p. 580,) from the details which he has previously given of the formation of the different tissues, yet it appears to us, that in one or two instances he carries these farther than the facts fairly warrant. We concur with him in thinking that there are absorbent cells, secreting cells, and probably assimilating cells, or fibrin-elaborating cells, and we conceive that if these last really exist, he has added very plausible arguments to show that they are the colourless, and not the red globules of the blood. We cannot, however, go along with him in believing that "it may be stated as a general proposition, that the interstitial change, which the whole structure of the body is, in its normal or physiological condition, continually undergoing, is due to the regularly occurring death and reproduction of its component cells, of which every one has its own limit of duration." P. 583. We are acquainted with no observations which would lead

1 Introductory Chapter to the new edition of Quain's Elements of Anatomy.
us to believe that when the muscular and nervous fibres have been once formed out of the primordeal cells, fresh cells are ever formed in these tissues, and that their nutrition is due to the regularly-recurring death and reproduction of their component cells. Some of the nuclei of the cells out of which the muscular tissue is formed, are found adhering to the ultimate muscular fibres; and it is quite possible, that it is by the agency of these, that the assimilating materials are separated from the blood in the nutrition of that tissue: but entire cells have not been observed. At p. 124 we perceive that our author has made a slight omission. In mentioning the experiments of Kronenberg,—by which it is proved that the apparent sensibility of the anterior roots of the spinal nerves is dependent upon branches of the posterior roots passing into the anterior roots at their point of junction, and then directing itself backwards towards the cord,—he ought to have mentioned, that these experiments of Kronenberg are confirmatory of others previously performed by Longet and Magendie. Kronenberg states that it was after having witnessed the experiments of Magendie that he performed his. Our author adopts the opinion of Scarpa, Arnold, Valentijn, and Longet, that the par vagus and spinal accessory nerves are together analogous to a spinal nerve. P. 184. We are, however, inclined to believe, that the trunk of the par vagus at its origin does actually contain a few motor filaments,—and on the following grounds. Remak and Volkmann in dissections upon some of the domesticated mammalia, and Mr Spence in the human species, have ascertained, that a few of the filaments of the trunk of the vagus do not pass through its ganglion; and Dr J. Reid, Volkmann, Stilling, and Wagner, have observed muscular contractions in some of the organs in which this nerve is distributed, on irritating the trunk at its origin, and before it had been joined by the accessory. There can, however, be no doubt that the greater part of the motor filaments found in the trunk of this nerve in its course down the neck, come from the accessory, so that an accurate decision on the point is, not of so much moment. We think that our author in his account of the process of chymification has shown a judicious distrust of some parts of the present fashionable doctrines on this subject. In speaking of the possibility of the conversion of the saccharine principles into oleaginous compounds, he says, "The possibility of such a change (which has been denied by some eminent chemists,) has recently been demonstrated by the careful repetition of the old experiments of Huber, who showed that bees, when fed upon honey alone, have the power of forming wax to an amount much greater than that which the honey contained. The oleaginous compounds forming part of the food are probably absorbed as such; and in common with these produced by the transformation just described, are either used for the maintenance of the respiratory process, or are deposited as fat. The question, whether they can ever by any addition of highly-azotised matter, be converted into protein compounds, and thus be applied to the nutrition of the azotised tissues, still, in the author's opinion, remains undecided; although there are not wanting those, who speak quite decidedly upon the impossibility of such transformation." P. 393. We would strongly advise those practitioners whose time will not permit them to keep pace with the recent additions to physiological pathology, to peruse carefully those parts of this work which treat of this subject. Some of them would find that the notions which prevailed in the schools, when they pursued their studies there, are becoming antiquated. They would, for example, discover that "notwithstanding all the attention which has been given to the state of the vessels in inflammation, a careful consideration of its phenomena, with the light which recent investigations have thrown upon these, leads us to attach comparatively little importance to this, and to seek elsewhere for the essential characters of the process." P. 536.

We again very earnestly recommend this work to our readers.
The work of M. Dorvault has had, we understand, a very extensive circulation in France; and when we consider the immense amount of pharmaceutical matter which it contains, we are not surprised at this success. Though written specially for his own countrymen, we have no hesitation in saying that, as a book of reference, it will prove of great value to the pharmaceutical chemists and general practitioners of Great Britain, and indeed to all who are interested in the important arts of prescribing and dispensing medicines. The work makes no pretensions to be classed among the scientific works,—if we may so speak,—on the Materia Medica; but is exactly what its name would lead one to expect,—a compendious hand-book for the Medicine-Shop.

The book consists of Four Parts.
The First Part contains two very useful Tables of Prices, the one of retail, the other of wholesale charges. Both are alphabetically arranged. An extract from the first table will illustrate its advantages. Wishing to know the price at which Medicinal Biscuits are dispensed, we turned up the word

"Biscuits,"

and found the following:

"Biscuits.—Pour préparer des biscuits sur prescription magistrale"

| Numéros | 5 | 10 | 25 | 50 | 100 |
|---------|---|----|----|----|-----|
| Franes  | 1 | 1.75 | 3 | 4.50 | 7.50 |

It would appear from this tariff, that five medicinal biscuits ought to be charged one franc, and one hundred of the same, seven francs and a half; in all the apothecaries' shops of France. It would be well, were our druggists to publish a similarly-constructed uniform rate of charges, by which they would consent to be regulated. It would in a great degree prevent two evils, which are occasionally brought under our notice, viz.—overcharging, and, what leads to much worse consequences—underselling, from excessive competition.

The Second Part, which is a Dispensatory compiled from the Pharmacopoeias of France, Germany, England, Belgium, Spain, Holland, Italy, Poland, Portugal, Russia, Sardinia, Sweden, &c., contains numerous important formularies. As a specimen of this portion of the work, we select what is said of

Medicinal Biscuits,1 (Biscuits médicinaux, massepains, macarons.)

"The preparations so named are not very numerous. They are obtained by adding (in powder or solution) some medicinal substance to biscuit paste; and baking it in an oven. Biscuit paste is made by beating up eggs with flour and sugar. The mass so prepared is divided into portions, put into buttered moulds of tin, or thin iron plate, similar to those used for chocolate, and then baked in an oven. It is usual to give the medicinal substance to a baker, who mixes it with his own biscuit paste; but when this is done, it is incumbent on us to be present during the mixing, so that we may be certain of its having been performed with exactness. The medicinal substance may also be introduced into fancy bread.

The advantage of this pharmaceutical form is to conceal both the smell and taste of a disagreeable medicine under the form of a sweetmeat. It is therefore

1 Mr Baildon of Princes Street, Edinburgh, prepares medicinal cakes and biscuits, some of which are very useful in the treatment of children's diseases.
more generally employed for children. There should be but few made at a time; and they should be kept dry.

"Olliver's Anti-Syphilitic Biscuits.

White of two eggs. Distilled water, 500.
Beat up the white of egg in the water, and add, Corrosive sublimate, dissolved in sufficient quantity of water, 5.
Collect the precipitate; wash, and let it dry. (Lassaigne, Bouch.)
One centigramme of this white animalised mercury is introduced into each biscuit. (Foy.)
The writer's biscuits are of a square shape, weighing about 8 grammes each.

Purgative Biscuits of Jalap.
Jalap, 21·0 grammes.
Biscuit paste, No. 15.
Each biscuit contains 10 decigrammes of jalap.

Purgative Biscuits of Scammony.
Resin of Scammony, 10·0 grammes.
Biscuit paste, for 50 biscuits.
Each biscuit contains two decigrammes of the resin. One biscuit may be given to a child seven years old. (Bouch.)

Vermifuge Biscuits of Worm-seed.
Powdered worm-seed, 4 grammes.
Essence of lemon, 15 drops.
Biscuit paste, for 24 biscuits.
Each biscuit should contain 15 centigrammes of worm-seed. One should be given to children, morning and night.

Storey's Vermifuge Biscuits.
Calomel, 1·3 grammes.
Ginger, 2·6 "
Jalap, 4·0 "
Sugar, 30·0 "
Cinnabar enough to colour the mass.
Add to it common syrup, and make ten biscuits. (Lond.)

Vermifuge Biscuits of Calomel.
Calomel, 8·0 grammes.
Biscuit paste, for 21 biscuits.
Each biscuit should contain three decigrammes of calomel, and should be administered according to the strength and constitution of the patient. (Foy.)"

(To be continued.)

Outlines of Chemistry; for the use of Students. By William Gregory, M.D., Professor of Chemistry in the University of Edinburgh. With numerous Engravings on wood. Part I.—Inorganic Chemistry. 12mo. Pp. 236. London, 1845.

Of late years there has been no want of excellent Elementary Treatises on Chemistry in the English language; but these works have, in their recent editions, grown to so unwieldy a size, as to render the publication of a smaller and more elementary work most desirable, both to the teacher and the student. It is with the view of supplying this want, that the admirable Outlines of Chemistry now before us have been produced. Although the form, as well as the objects, of the work are unpretending, Dr Gregory has succeeded
in presenting to the student a very excellent digest of the present state of chemical science, and has embodied in it much matter, which is more recent than even the newest of our larger text-books.

The first forty pages of the work are occupied by a very clear and concise account of the laws of combination, and the atomic theory. The latter of these subjects especially is neatly given; and contains a very lucid description of an atom as contra-distinguished from matter in the mass,—which we extract as a favourable specimen of the author's style.

"Now, while we admit that there is no limit to our conception of the divisibility of matter, this does not prove that there may not be a limit, in point of fact, to its actual divisibility. For, let us consider for a moment what division actually is, and we shall find, that it can only be defined as the separation of one portion of matter from another. Now, as matter, in its usual forms, undoubtedly consists of particles held together, more or less firmly, by cohesion, it is plain that we can easily, by overcoming cohesion, separate those particles from each other, and this is ordinary division.

"But, on the atomic hypothesis, each of these visible ordinary particles is, like the original mass, formed of still smaller particles cohering together, but in neither case in absolute contact. Indeed, the phenomena of expansion by heat, and contraction by cold, demonstrate that the particles of matter are not in absolute contact; in other words, an ordinary mass of matter may be defined as a portion of space not entirely filled with matter.

"Let us now define an atom as a portion of space entirely filled by matter, and we see at once that such a mass cannot possibly admit of division. It is strictly a unit, and a division implies separation of one unit from another: it is here evidently impossible. It is not meant that we can prove this to be the nature of atoms, for we cannot even prove their existence; but the object of the above illustration is to show that we can conceive the existence of an indivisible particle, and therefore, that the argument above described, in favour of the infinite divisibility of matter, is not necessarily conclusive."

The general section of the work concludes with a rather meagre sketch of Isomorphism and Isomerism, in the former of which sections Dr Gregory speaks of Isomorphism as being based on the "admirable researches of Gay-Lussac and Mitscherlich," in such a manner as might lead the uninitiated to suppose, that the merit of the discovery belonged equally to these two chemists,—whereas, all that Gay-Lussac did, consisted in observing that a crystal of potash alum, when introduced into a solution of soda alum, received a coating of the latter salt without change of form. It was in the hands of Mitscherlich, the most profoundly philosophical chemist whom Germany has ever produced, that that, and various similar phenomena, were reduced to the general law of Isomorphism, the discovery of which constituted one of the most important steps ever made in the philosophy of chemistry. The section on Isomerism occupies only a single page; though it might, with great advantage, have contained a short account of the Isomeric, or, as Berzelius calls them, the Allotrophic conditions of the elements,—a subject which is daily gaining in interest and importance. Nor can we avoid noticing the total omission of the subject of Dimorphism. We should not have objected to these omissions, had there not been some sections of Dr Gregory's work which are extended out of all proportion to the whole. Such is, for instance, the section on arsenic,—the greater portion of which is occupied by an unnecessarily long account of the mode of detecting that poison recommended by Fresenius and Babo, of all others the most tedious and troublesome method yet proposed, and certainly inferior to Marsh's process, which, when performed with the proper precautions, gives results which are absolutely unequivocal.

In the section on the Elements and their compounds, Dr Gregory has brought down our information to the most recent times. He has introduced the newly discovered compounds of sulphur and oxygen, and of chlorine and oxygen. But even here there are some omissions. Thus, the equivalent of Glucinium is still called 26.54, and Glucina is styled a sesquioxide, although the researches of Awdejew, published a couple of years since, have shown that its atomic
weight is 4.65, and that Glucina is a protoxide: and no mention is made either of Ferric or Bismuthic acid. These, as well as other omissions, we trust Dr Gregory will supply in a second edition.

Dr Gregory's work differs from all foregoing chemical works, both British and foreign, by the total omission of the physical departments of Chemistry, namely, Heat, and Galvanism. This omission, the author seems to consider an important improvement, and points to it with evident satisfaction in his preface. We doubt the propriety of this change. We are ready to admit that much of what has been taught by some teachers of Chemistry falls strictly within the domain of physics; but there is a large number of subjects connected with heat and galvanism, which the lecturer on Natural Philosophy can, and does, enter upon very cursorily—with the statement, that they belong properly to chemistry. Such are the specific heat of atoms, (a most important chemical doctrine,) the theory of the galvanic battery, and the identity of galvanism and chemical affinity,—subjects, the very names of which do not occur in the work before us, although they constitute two of the most important doctrines of philosophical chemistry. Dr Gregory admits that the knowledge of these points is essential to the student of chemistry, but conceives that they should be elsewhere acquired. We fear, however, that there are very few of our students of medicine,—who will always constitute the majority of the professor's audience,—who do acquire this previous knowledge; and until means are taken to compel them to do so, it would certainly be preferable to continue the old system of introducing a short sketch of heat and galvanism, in which those portions of the subjects which relate especially to chemistry, might be pretty fully discussed.

In the plan which Dr Gregory has taken, he follows the Giessen school, a school in which the philosophy of chemistry has never flourished. The illustrious head of that school has never distinguished himself in that branch of chemistry; and the small repute in which it is held at Giessen, may be judged of by the fact, that although that University possesses Professor Kopp, one of the most distinguished cultivators of the philosophy of chemistry, his lectures are never attended by above two or three out of the seventy who resort to Giessen for the sole purpose of studying chemistry.

We have freely pointed out what, in our opinion, are faults and omissions in Dr Gregory's work, knowing well, that with reference to the justice of some of our remarks, there may exist difference of sentiment; and in conclusion, it now only remains for us to state, that taking Dr Gregory's work all in all, it is beyond comparison the best text-book of Chemistry which can be placed in the hands of a student of that science.