earliest time, but it contains a careful analysis of current doctrines. The second part treats minutely of the etiology, morbid anatomy, duration of the disease, modes of death, symptoms of the disease, constitutional disturbances, diagnosis, and treatment. Not the least valuable portion of the work is the appendix, in which is the clinical history of eight cases of intra-thoracic cancer. Those who really wish to know all that is known upon the subject of intra-thoracic cancer, should read Dr. Cockle's treatise.

The Physiological Anatomy and Physiology of Man. By Professor B. TODD, WILLIAM BOWMAN, and LIONEL S. BEALE, F.R.S.S. Part II. London: Longmans.

It is only necessary to say that a new edition of Todd and Bowman's Physiology is published in order to cause an extensive purchase of the book. Where is the student who is not familiar with its clear and forcible style and its excellent illustrations? In the present edition, the old cell theory no longer holds a place, and the tissues are materially tinged with Dr. Beale's "carmine" and his "formed and germinal matter" theories. In so far as Dr. Beale attacks the doctrine put forward so many years ago by Schwann and Schleiden, we think he is right; undoubtedly cells exist in the tissues, but it is only the typical or ideal cell which has no existence; the peculiar membranous sac which has an individuality of its own, and which has the power of reproducing itself. But we certainly are at a loss to understand the application of Dr. Beale's notions about "formed matter;" formed matter, he says, is dead, and yet from his account we are compelled to think that muscle and nerve are both formed matter. It seems to us as if Dr. Beale's theory were a compromise between the old cell doctrine and the views of Professor Huxley. Still Todd and Bowman's work is one of the best of our treatises on histology, and we recommend it to students.

Bleeding and change of type in Disease. Being the Galstonian Lectures for 1864. By W. O. MARKHAM, M.D. London: Churchill.

In this essay the accomplished Editor of the *British Medical Journal* has brought a keen analysis of modern systems of medicine, and no mean erudition to prove that the so-called change of type in disease is a myth. However, the most important features in connexion with these lectures is the fact that they have extorted a recantation from Sir Thomas Watson, who, in a letter appended to Dr. Markham's preface, confesses that he has changed his opinions, and gives his reasons for doing so. But while he denounces blood-letting in most cases in the strongest terms, Dr. Markham shows us that in certain instances "accompanied with obstructions of the cardiac and pulmonary functions," blood-letting to a serious extent is not only justifiable, but necessary. May not the author, however, be himself in error in this? He bases his recommendation upon the belief that in inflammation one of the most important exciting causes is the enlargement of the vessels. But modern scientific pathology shows us that this dilatation of the capillaries is more an effect than a cause, and surely, therefore, Dr. Markham's advice is questionable when it says that we should bleed freely in such cases as the above.

On Vitality. By the REV. W. HIGGINS, M.A.

This is a very clever little pamphlet, in which the complex questions of vital forces or principles are discussed in an important and philosophic spirit.

English Correspondence.

[FROM OUR OWN CORRESPONDENT.]

London, September 18th, 1866.

THE cholera epidemic appears to be disappearing from London; the last returns give 28 deaths per diem only. This result is probably in a great measure attributable to the prompt measures of house-to-house visitation and relief adopted by the various East-end parishes where the disease has been most fatal. Supplementary hospitals have been opened by private benevolence at Commercial Street and Limehouse. The notable feature during the present epidemic has been the adoption of the voluntary system of nursing by ladies and trained sisterhoods, who have given their services at the London Hospital and those above-mentioned with the most entirely satisfactory results. The columns of the daily press have been filled with letters from medical practitioners upon the treatment of cholera and diarrhœa; it can, however, scarcely be contested that the columns of unscientific journals are not fit places for the discussion of important and improved theories. A series of reports on the epidemic of cholera in the East-end of London have appeared in the *Lancet*. The writer comes to the conclusion that from the nature of the outbreak, and the close coincidence of its limits with those of the district supplied by one kind of drinking water, the late destructive explosion of cholera was due to the impurity of the water supplied by the East London Water Works. Some attention has been excited by Mr. Glaisher's asserted observation of a peculiar blue mist before and during the prevalence of cholera. Some persons have corroborated his statement, and offered various explanations; but nothing definite has yet been written on the subject.

At a Council Meeting of the College of Surgeons, Sir William Fergusson gave notice of his intention to bring forward a resolution that examiners should not hold office for more than ten years; this important proposition was carried by a considerable majority at the last meeting.

An influential committee, consisting of most of the eminent practitioners of medicine in London and the provinces, has been formed with the view of raising a testimonial fund to Dr. Richardson, so as to enable him to carry on his investigation without pecuniary loss to himself. Dr. Richardson has given his apparatus for local anœsthesia to the profession without the restriction of a patent.

The British Association has just held its annual meeting at Nottingham. The Medical Profession was very largely represented. Dr. Bence Jones presided over the Chemical Section. In his opening address he observed that our chemists ought to be capable of any analysis that might be required of them, and able to satisfy themselves and medical men of the unadulterated nature of their compounds; he also considered that the present term of medical education should be lengthened; that in the first ten or twelve years of life, English, with writing and arithmetic, might be acquired; in the next five or ten years, a knowledge of physics, chemistry, and botany, with German or French, should be obtained; and in the following five years, anatomy, physiology, medicine, surgery, and midwifery. Papers were read by Dr. John Davy, "On the Labour of Man;" by Dr. Sharp, "On the Physiological Action of Medicines;" by Dr. Cobbold, "On the so-called Cattle-Plague Entozoa, and on the Entozoa of the Dog in relation to Public Health;" by Messrs. Gilbert and Lawes, "On the sources of the Fat of the Animal Body;" and by Dr. Gibb, "On variations in the great Arterial Blood Vessels." Dr. Sibson gave an account of his researches "On the Movement, Structure, and Sounds of the Heart," and Dr. Bence Jones read a highly important paper "On the Chemical Action of Medicines." Dr. Daubeny read a paper "On Ozone;" Dr. Crace Calvert, "On the Oxidizing Action of Carbon;" and Mr. Crookes, "On Disinfectants."

The Parliamentary Session of 1866 has passed at least one most useful measure—the Sanitary Act. This measure confers powers which will enable the medical men of any town or district in the kingdom, by concerted action, to remove at once the principal sources of preventible disease.

The Edinburgh University 'capping day' saw Professor Christison for the third time perform the duties of *promotor facultatis!* In his address to the graduates, he observed that he had been concerned more or less in forty-five yearly graduation addresses.

The subject of Workhouse Infirmary Reform still occupies the profession and the public. Dr. Edward Smith, one of the Commissioners lately appointed to enquire into the condition of the institution, has in his very elaborate report come to one or two conclusions which are at variance with the generally acknowledged theories. He thinks that by means of a peculiar system of ventilation, which, however, he does not describe, 500 cubic feet of air should suffice for each patient. He has based this singular view upon certain experiments undertaken in wards ventilated in the manner referred to, and which proved the absence of any injurious proportion of carbonic acid. But the very least we can say against Dr. Smith's theory is that it is a rash one, for the Doctor took no account of the organic matter present in the air, and avoids telling us whether there was not great draughts of air in the wards. The 500 feet measure, though highly gratifying to the "guardians," has not met with the sanction of the profession or the "press." The Metropolitan Poor Law Medical Officers' Association has just taken the affair in hand, and they have published a series of objections to the theory, which we fancy even Dr. Smith's ingenuity will be puzzled to explain away. One of their objectors says of the experiments that "they

were essentially inexact, inasmuch as no account was taken either of the total amount of air passing through the wards in which the experiments were made, of the rate of movement either at the apertures through which fresh air entered or foul air escaped, or of the total size of the ventilating apertures provided per bed." The Association demand at least a thousand feet of cubic space and eighty feet of floor space per bed.

The new Medical Club—the Sydenham—seems likely to become an accomplished fact. Already it possesses a long list of members, most of whom are provincial Physicians and Surgeons, to whom the Club will afford the advantages of an hotel and library. The provisional committee had a meeting a few days since, and discussed the measures to be adopted in the selection of a site for the Club. Mr. Propert presided, and Dr. Richardson, Dr. Stillwell, Mr. Swabey Smith, Mr. Slaughter, Dr. Fraser, Dr. S. Lory Marsh (Secretary), and several other gentlemen were present. The Secretary's report was a favourable one. It was resolved to hold a general meeting in October next, and a working sub-committee was formed. Amongst other resolutions was one which, though good in its way, seems to indicate that the progress of the Club is not so satisfactory as represented; it was for the admitting to membership representatives of the sciences allied to medicine.

Another of the cases in which the reputation and good fame of respectable men are assailed as a means of extorting money has just occurred. Dr. Ballenden, senior, of Sedgley, was brought before the local Police Court, charged with "taking advantage of the presence of a female patient to commit an indecent offence." The complainant, a widow, swore in the most decided manner, and evidenced minute circumstances in support of her case. The decision would clearly have gone against the unfortunate physician, if two most respectable witnesses had not sworn that the crime could not have been committed without their knowledge, and that nothing of the sort alleged occurred. Surely the law of evidence wants reforming; it is most sad to think that the good fame of a man, to whom his very name is his bread, can be fouled by the evidence of a malicious woman, without any further corroborating testimony. The Brompton Hospital some time since established a Sanatarium somewhat like the institution at Bournemouth on the south coast in Madeira. Madeira has always been cried up as the place of places for the consumptive, and the wealthy English classes subscribed liberally to support the new establishment. Unhappily, however, the Madeira Sanatarium has been a failure. The patients did not improve in a sufficiently large proportion to satisfy the Brompton authorities, who have therefore resolved to discontinue the establishment. This has given some disappointment to the subscribers, who, I believe, have determined to keep it up themselves in the event of no other hospital coming to their aid. The Social Science Congress will be held at Manchester next month, and Dr. Farr has accepted the presidency of the Health Section; one of the more important subjects of discussion will be the means of preventing smoke in large cities. A flagrant instance of Government injustice to military medical men has just occurred. The surgeon of a regiment lately returned to England, required only a few weeks in order to complete his 20 years' service and obtain a half-pay of 16*s.* 6*d.* per day, but the villanously shabby authorities here put him on half-pay two days after his arrival, and thus have given him only five shillings per day!!

Progress of the Medical and Allied Sciences.

Variation of the Arterial Vessels.—Dr. G. Gibb has published an important memoir on this subject, in which he records some remarkable deviations from the normal type. In the first case which he records the aorta gave off four branches instead of three, the right carotid and subclavian both arising by a distinct and separate branch, there being therefore an entire absence of the arteria innominata. In this case there was an irregularity in the division of both the femoral arteries and in that of the left Sciatic nerve. In example No. 2 the aorta divided into two great branches, the first of which divided into the innominata and the left carotid, which crossed the windpipe to the left; the second branch divided into the right carotid and the descending aorta. The second example Dr. Gibb considered as being unique, the most experienced observers having noticed nothing of the same kind. He considered this variation in the larger blood-vessels as a deviation from the standard type, and to some extent a precursor of similar conditions in the lower animals. In the first example the blood-vessels had become converted into what might popularly be regarded as cylinders of bone.

Effects of the Pollution of Rivers.—Colonel Sir J. E. Alexander read a paper before the British Association at Nottingham, in which he described some of the more remarkable consequences of the pollution of English and Scotch rivers by manufacturers, &c. The dirty greasy water caused by paper mills was highly injurious to the fish of rivers and to the public health. Sanitary officers should peruse Colonel Alexander's essay.

A Magnesium Lamp of a new kind has been invented by a Mr. H. Larkin, and promises many advantages to those engaged in physical and photographical investigation. The magnesium, which we may mention burns with a light equal to that of the sun, is not employed in the state of wire or ribbon as in the older lamps. It is used in powder, which is contained in a reservoir provided with a small aperture through which the powder flows. Beneath this aperture there is a small gas-jet, and in the flame of this the magnesium is kindled. The powder is generally mixed with sand so as to allow of the aperture in the reservoir being made sufficiently large to produce an even and constant flow of the powder. The reservoir is regulated by a stop-cock. Altogether, Mr. Larkin's contrivance is a most perfect and valuable one, and commends itself to the notice of chemists and physicists.

Propagation of Vaccine Matter.—That the propagation of vaccine matter involves the propagation of other poisons, is a theory to which many people cling with tenacity. It has, however, received a satisfactory refutation at the hands of M. Bousquet, a French physician, who has been lately experimenting on heifers. M. Bousquet states that having come in contact with syphilitic patients who had not been vaccinated, he made punctures with a lancet charged with vaccine matter by the side of the syphilitic ulcerations. Vesicles formed in due time, the lymph of which he inoculated upon himself and others, and the operation was followed by the production of regular vaccine vesicles without any trace of syphilitic contamination.

The Contractions of the Heart.—In the *Dublin Quarterly Journal of Medical Science*, Dr. Paton, of Toronto, has published a paper in which he records his own experiments on the action of the heart, and gives an analysis of the views and observations of other physiologists. The most important conclusion at which the author arrives is that the phenomenon of *diastole* or dilatation is an active one, caused by a peculiar muscular act of expansion, and by no means due to the mechanical action of an influx of blood.

The law of chemical proportions, in which we have all trusted hitherto, has just been assailed by M. Stas, a Belgian chemist, who calls its accuracy into question. M. Stas thinks it is not an *absolute* law, but only a *limited* one. His argument is that the constancy of composition of every combination does not prove that the relations in weight which its elements observe must be maintained absolutely in all the combinations they enter into with other bodies. Thus, says M. Stas, the composition of sulphate and sulphide of barium may be constant, but it does not therefore necessarily follow that the relation by weight of sulphur to barium in the sulphide must be absolutely identical with that which these bodies bear to each other in the sulphate of barium.

The origin of Muscular Power.—A new and startling theory, which tends to explode all the doctrines on this question which have up to this held sway over the minds of physicians, has been put forward almost simultaneously in England and Germany. The advocate of the new view in Britain is Dr. Frankland, the celebrated chemist of the Royal Institution, and his conclusions have been published in a valuable paper which appeared in the *Philosophical Magazine*. Briefly their conclusions are the following:—(1) A muscle is a machine for the conversion of potential energy into mechanical force. (2) The mechanical force of