for secretion, and, to a great extent, for excretion. The fact that muscular motion is necessary for the elimination of urea, that this is a most subtle poison, and requires an organ purposely to abstract it from the blood, and that it is composed of a substance easily formed by the chemist in his laboratory, may be cited as an instance of the relation of chemistry to physiology. Again the power of absorbing gases is an instance of the same kind, and one which has completely altered our ideas of respiration. The chemist can convert starch into dextrine and sugar, or into fatty matter, or butyrine, by the addition of substances which do not themselves lose any of their properties; and this shows how easily the nitrogenized and non-nitrogenized elements which are found in plants and vegetables are converted into substances fitting to be assimilated into the human body.

Having, then, drawn the attention of his audience to the facts of pathology which had been gained by study of the fluids and solids of the human body, and alluded to the observation of Dr. Garrod, that urate of soda existed in the blood of healthy individuals, the learned orator proceeded to comment on the theory of cellular formation, which has effected such an alteration in our ideas of function, and more especially on its connexion with physiology and practice.

Further allusion was then made to the dependence of life on physical causes, and the audience were cautioned against placing reliance in statements made by men who allow their imaginations to run riot. As an illustration of this, the statement of Matteucci, that the heat evolved from the human body in walking a given distance consumed about thirty-four times as much fuel in proportion as a locomotive engine; and the various old conjectures respecting the force of the heart, were referred to.

The attention of the members was then directed to the revival of the humoral theory in pathology, in consequence of the tendency of the cellular theory in anatomy; and in connexion with this, the absorption of remedial agents in a gaseous form was more particularly alluded to. The discovery of the anæsthetic power of ether was made by accident, by a man who was not a chemist, and was therefore not aware of the chemical composition of the substance he was using; yet this discovery led to the investigation of other substances, and subsequently to the use of chloroform as a substitute. By the means of these fluids, pain is removed, the shocks of operations are avoided, and the ultimate result is rendered more favourable. It is worthy of notice, that although the discovery of the astonishing effects of inhalation of these substances was accidental, Sir Humphry Davy long ago advised the employment of nitrous oxide gas as an anæsthetic agent, clearly proving that if more attention had been paid to purely scientific pursuits, the profession and the public would both long ago have been benefited.

Why should there not be full co-operation amongst medical men for the advance of science? was a question fully commented on by the orator, and by illustrating his point with the advantages derived from the co-operation of astronomers and others, over every part of the habitable globe, he showed how desirable it was that there should be observations made by medical officers to our public establishments, so as to correct errors, and give surgery its proper position as a science. This was now likely to follow from the feeling which existed amongst scientific men at home and abroad. The Royal Society of this kingdom has often conferred its medals on illustrious foreigners—men distinguished for their scientific attainments; and it is pleasing to notice that the French Academy has elected Sir David Brewster as one of its associates, in room of the late distinguished Swedish chemist—Berzelius.

The increasing sense of the necessity of a truly scientific education, amongst all classes and every rank of life, was a guarantee that science would not be neglected; on the contrary, that it would advance with rapid strides. Nothing, indeed, could be more certain than this, when the illustrious visitor whom he had the honour of addressing stood foremost in the ranks of the well-wishers to the progress of science, and had already effected an incipient reform in the great university of which he is Prince-Chancellor. The inhabitants of this realm looked forward to the increased happiness and prosperity of the nation, from the happy rule of the present sovereign, and they hailed with a happy augury a rising generation of princes, and congratulated themselves that the overthrow of thrones and of dynasties which had lately occurred in such violent succession, it had been their lot only to witness, and not to share.

In the evening, the President and Council entertained a large and distinguished party at dinner, including Sir Robert

Peel, Sir James Graham, the Bishops of Norwich and Oxford, the President and Censors of the Royal College of Physicians, &c. The dinner and wines were provided by Mr. Bacon, of the Freemasons' Tavern, who well maintains the character of that renowned establishment.

Medical Registration Committee.

MINUTES OF EVIDENCE.

Friday, June 30th, 1848.

MEMBERS PRESENT.

Mr. Wakley.	Mr. Hamilton.
Sir Henry Hallford.	Mr. Grogan.

THE LORD ADVOCATE IN THE CHAIR.

(Continued from page 173.)

John Storrar, Esq., M.D., examined.

4660. Mr. Wakley.]—Are you aware that it is also proposed, before he would be entitled to register, that a bachelor in medicine should be examined before the College of Surgeons?—I am.

4662. Do you approve of such arrangement?—I strongly disapprove of it, and for this reason; our degree of bachelor of medicine is an evidence of our having gone through a stringent examination in surgery as well as in medicine, consequently that degree is evidence of our surgical as well as medical attainments.

4663. You yourself were a bachelor of medicine before you became a doctor of medicine?—I was.

4665. Was your examination extensive in an elementary sense?—In an elementary and in a practical sense, it was.

4666. Was it towards the latter part also of an extensive practical character?—As practical as it could be over the table in the examination-room; I refer from this answer to one that I gave in the early part of the examination; that I preferred that medical examinations should be conducted, in part, by the bedside.

4667. There is a clinical examination now, is there not, at the University?—Yes, there is a commentary on a case in writing.

4669. Have you ever been examined before any other medical institution?—Some years ago I was, before the Society of Apothecaries.

4670. Placing the examinations together by contrast, or in comparison, what would you say of them?—They could only be placed in contrast, and the contrast I think would be highly favourable to the examination of the University of London, at least to a competent candidate.

4675. Are you acquainted with any other institution in the United Kingdom which inflicts upon its candidates for medical degrees a more severe examination?—I am not aware of any place where so severe an examination is required.

4676. Do you know of a more highly educated body of medical men than the doctors of medicine of the University of London?—I speak with some diffidence as a doctor of medicine, but I do not.

4677. You have already stated, notwithstanding the extent of their education, that they have no external legal rights, and no internal privileges?—They have none.

4678. What is the proposal that you now make to the committee, with reference to the future status of the body whom you have described; I refer more particularly to the subject of registration?—If you were to ask me for my own scheme, I would prefer that the whole of the medical affairs should be directed by a central board, and that all the medical examinations and licensing in the kingdom should emanate from that board; but if such a scheme be not found practicable, then I would limit myself to claiming for the graduates of the University of London, whether bachelors of medicine or doctors of medicine, the highest privileges which are conferred upon medical practitioners in this kingdom, that they should be admitted to as much at least as the graduates of any other academical body.

4679. Reducing your propositions still further into detail, in what character would you have a doctor of medicine of the University of London register, and in what character would you have a bachelor of medicine register, assuming for the occasion that he is not to undergo any examination before any other body, and that he is not to be enrolled among the members of any other body?—Simply A. B. M.D., C. D. M.B.

4680. You would allow them to make a selection of the class in which they should register, or you would have them entitled to register in all three classes?—If they chose, but

they should not be compelled to register in all three, or in any other list excepting their academical list, unless they chose.

4681. You consider that they are qualified to practise as physicians by their examination and education?—Certainly.

4682. You consider that by their education and examination they are qualified to practise as surgeons?—I do.

4683. Do you also consider that they are qualified to practise as apothecaries?—Do you mean by the word “apothecaries,” apothecaries in its original sense, or general practitioners.

4684. As the term is now generally received, as general practitioners?—Yes.

4699. Is there anything that you wish to offer to the committee in the way of suggestion?—I think that some stress has been laid by some of the elder medical corporations upon the importance of delaying the period of practice by physicians till a certain age; I think twenty-six was the age named; my own opinion is, that provided a physician has arrived at that age at which the state recognises his competency to occupy public functions, and has proved his competency to practise his profession, he can never be too young.

4701. Do you think that it is at all judicious to admit by law that a man is qualified to practise medicine in all its departments, to practise surgery, to practise midwifery, and to practise pharmacy, and at the same time to enact by law that he should not practise in the character of a physician until he has attained the age of twenty-six?—I think that it is not only injudicious, but manifestly absurd; I take the liberty of making one observation that has reference to the stress which is laid by some members of the old universities and College of Physicians on the extent of classical attainment as a qualification for medical practitioners. There is no doubt that classical, mathematical, and general attainment is of importance to the physician; all kinds of knowledge may be of importance to him; but all kinds of knowledge are not equally indispensable; and if some are more important than others, it is very desirable that they should form his peculiar subjects of attention. I think that the advantage of the study of classical languages may be attained by judicious education in the elements of the classics—as much, in fact, as is represented by the matriculation examination of the University of London; I fear, if more were required, you would have to deduct the time devoted to classical, mathematical, and natural philosophy pursuits, from the time which should be devoted to medical pursuits. It must be always borne in mind, that although a literary and scientific education is of the first importance to a medical practitioner, yet it is an art which he is to practise, and the knowledge of that art must be based on experience, which experience can only be acquired by devoting himself to the practical study of his profession. All his knowledge should be essentially practical; for inasmuch as it is only of value when it is brought into practice, it is of little use unless it can be brought into practice; and it is not because I undervalue the importance of classical attainments that I would limit the range necessarily required, but that I conceive that there is a certain limit to be put to what a man can do in this world, and that we must make the best use of the time we have, and that a large portion of that should be devoted to professional study.

Robert Barnes, Esq., M.B., examined.

4704. *Chairman.*—Are you a graduate in the University of London?—I am a bachelor of medicine in the University of London.

4705. Are you a member of any of the London bodies of practitioners?—I am a member of the College of Surgeons.

4708. Have you heard the evidence which the committee have received from Dr. Storrar?—Yes, I have.

4709. Do you concur generally with him in what he has said?—Generally.

4711. Have you anything further to state to the committee?—I think that there are several points in the way of objections to the “Principles” of the new Bill, and to the charters of the College of Physicians and the General Practitioners, which have not yet been mentioned, and I should like to take the objections specifically. I have considered the “Principles” as laid down by the heads of the different colleges, and the charter to the College of Physicians together, as I think they hang together, and have a relation to each other, and I would endeavour to show the impolicy of granting a monopoly to the College of Physicians to qualify for physician’s practice. There is a clause in the “Principles” which makes it compulsory for every one who would practise as a physician to become a member of the College of Physi-

cians, in order to register as a physician; the registration is made compulsory by another clause, so that he must go through the College of Physicians. I object, on the part of the graduates of the University of London, and especially on the part of the bachelors of medicine, to such an arbitrary provision. Another clause in the charter is to the effect that a doctor of medicine of British and some foreign universities, if possessed of his degree three months before the granting of the charter, and if claiming within twelve months after the charter, on payment to the college of fifteen guineas, shall be admitted to the College of Physicians. This clause altogether puts aside the bachelors of medicine of the University of London; they are not specified in this clause and no doubt it is intended to exclude them; and I submit that there are no justifiable grounds for such exclusion. It does not occur to me that there is any valid pretext for placing the bachelors of medicine of the University of London in an inferior position to that of the doctors of medicine of any of the British universities, whom it is proposed to admit as members of the College of Physicians under their charter.

4712. Do you consider the degree of bachelor of medicine as high as the degree of doctor of medicine, in your own university?—In the universities of England, certainly.

4713-17. But in your own University of London?—No; but *the bachelor’s examination is equal in all respects, and in many respects superior to that of the doctor of medicine in other universities* . . . I submit that it is not necessary to make the bachelors of medicine undergo another examination before the College of Physicians, on the ground that the examination they have undergone is already sufficient as a test of their fitness; and with reference to that, it might not be perhaps unfair to claim a certain superiority for the University of London. The examination at the College of Physicians is inferior to the examination of the University of London, and for this reason; the requirements of the College of Physicians, from candidates, are inferior in quality; their scheme of examination is less comprehensive, and their staff of examiners much less in number, and less efficient than that at the University of London for the degree of bachelor of medicine. At the College of Physicians, the president and censors are the examiners, and I believe there are not more than three examiners. The president and censors are, I believe, the examiners *ex officio*. Election to the offices of president and censor is governed by other considerations than that of qualification for the duties of examiner. At the University of London, there is a staff of sixteen examiners, each of which sifts the candidates by written examinations, and subsequently by *vivâ voce* examinations in all cases. And these examiners are selected solely on account of their fitness to act as examiners in their several departments. There is another ground upon which I should rest the claim of the bachelors of medicine to exemption from an examination at the College of Physicians, which is, that the examination of bachelors of medicine at the University of London is under the direct authority of the state; and that is a guarantee that the examination is a proper one, and we have therefore a right to look to the state for some protection.

4718. Do you think that the division of medical practitioners into three bodies, pure physicians, pure surgeons and general practitioners, is advisable, or the reverse?—To save time, I may state that I am of the same opinion as Dr. Storrar; I consider it not advisable, and that there should be one qualification for all medical practitioners, but that they should afterwards practise as they please.

4719. Your opinion against the “Principles” rests mainly upon the disallowance of the propriety of that provision?—I wish to state generally the objections that I take to the charter under the “Principles.” There is a clause in the “Principles,” clause 8, which imposes penalties “on all unregistered persons practising medicine, and also on all persons assuming any professional name or designation to which they are not by law entitled, or which implies that they belong to a class in the register in which they are not registered;” and in conjunction with that there is a clause which bears upon it in the charter of the College of Physicians: “It admits any person over forty years of age as member after examination, and such person shall, after such his admission as a member of the said corporation, be entitled to have and use the degree and designation of doctor of medicine.” The objection that we take on the part of the graduates of the University of London generally is this, that the M.D. or M.B. of London, who might be practising as a general practitioner, and consequently not registered as a physician, would be precluded from using his title, which is so manifest an injustice, that I think it hardly necessary to dilate upon it. He has an academical degree.

which has been fairly earned under the sanction of the law, and it is proposed that he should be debarred from using it because not practising as a physician; it is putting into the hands of the College of Physicians a power to debar a man from using his degree. There is another point; it appears that they do not rest at this step of preventing doctors of medicine who may not be registered as physicians from using their degrees, but they give it to persons who are not entitled to it; they usurp the power to grant the degree of doctor of medicine, which it belongs to a university and not to a College of Physicians to grant. There is one more objection to the charter: there is a special registration clause at the end of the "Principles" alluded to in order to embrace all those persons who might not be included in the specified classes in the charter, but who might be practising medicine before the Act, and might be supposed to have a claim; it is proposed by the College of Physicians that any such person should submit his claim to be registered to the college of that part of the kingdom in which he might be practising. The objection to this is, that it is not sufficiently definite; it does not state what persons shall be embraced by this registration clause; the bachelors of medicine of the University of London would of course object to waive their present claims, with the idea of being admitted under this registration clause hereafter, if the Bill passes. They make this objection, that the College of Physicians have already passed them over in their projected scheme, and, of course, they have no better security that the college would not pass them over hereafter, when the cases came individually before it. I further think there would be a great evil in giving the monopoly of licensing physicians to the College of Physicians at all, on the ground that it is not for the public good. The granting a monopoly to practise to one body, would, of course be open to all the arguments used against monopolies, and which I need not specify. I think it would be injurious to the independence of the profession that such a thing should be established; for if the College of Physicians had the monopoly, every person aspiring to physicians' practice, or to physicians' appointments, would be induced to look to the heads of this College of Physicians, and to shape their conduct more or less in accordance with the views and influence and interests of that body; it appears to me, that so important a power to the public generally should be vested in a board responsible to the state and to parliament, rather than that such an absolute power should be granted to the College of Physicians. There is also an objection to the fee which the College of Physicians demand on admission as members; supposing always, that the College of Physicians is made the only door to practice, and that you must go there, they demand a fee of fifteen guineas; now, the objection to this fee is, that it is to be paid into the funds of a private corporation, from which, the members so entering derive no benefit. If it were looked upon as a licensing fee to practise, and were paid to the state or to some public fund, it might not be objected to, but being paid to a private corporation to enrich their funds, it appears to be an exaction. Summed up, the case is as follows: No one is to practise as a physician unless he is previously registered as a physician; no one can register as a physician unless he shall previously have become a member of the College of Physicians; and no graduate in medicine shall become a member of the College of Physicians except on the payment of a fee of fifteen guineas. The College of Physicians, therefore, is made a toll-gate, where tolls are to be levied on all, however high their qualifications, who wish to practise as physicians. . . . I would submit, likewise, the claim which the graduates of the University of London have upon public consideration, independently of their connexion with the state, and that is the position which they already occupy; considering their number and the short time during which the university has been established, and their age, the position they occupy in the medical world, is such as to claim consideration for them. We have at present sixty-one doctors of medicine and ninety-one bachelors of medicine, and out of that number there are twenty-two who hold appointments as physicians to public hospitals and dispensaries, and there are twenty-three who are lecturers or teachers in recognised colleges or schools of medicine: and I may observe that such a large proportion as those holding important public appointments is the more remarkable when it is contrasted with the number of the graduates, their standing and their age, and more especially when it is considered that they have had to compete with the interest and influence of the College of Physicians in many of those appointments which they hold. The College of Physicians have, in many institutions, by internal regulations, exercised the power of excluding every one but such as belong to their

own body; but in spite of that, the public have seen the utility of the graduates of the University of London, and have promoted them in those institutions where partial regulations do not exist to exclude them.

4723-4. *Chairman.*—Have your graduates obtained admission into hospitals in which the College of Physicians of London have the power of excluding them otherwise than by influence?—I think not; but there is one hospital, the University College Hospital, where two of our graduates are assistant-physicians, holding no degree but from the University of London.

4725. Is that hospital under the University of London?—It is distinct from the domination of the University of London.

4726. It is recognised by the University of London?—Yes, it is.

4727. And in return, it recognises the degrees of the University of London?—I presume it does, by the fact of their appointing two physicians from the University; but the University College being an institution whose success mainly depends on the talents of its officers, would suffer a vital injury if it excluded graduates of the London University. I should wish to make an observation on behalf of those bachelors of medicine who are now practising pharmacy, and who consequently, under the new regulations projected by the College of Physicians in the "Principles," would not be entitled to be registered as physicians. A person can only claim within twelve months after the passing of the new charter to the College of Physicians, and the present graduates now practising pharmacy might wish to continue general practitioners for some period after that time, but they must, in order to practise as physicians, undergo an examination by the College of Physicians, although they have at present the same degrees which others have, and which are now recognised as a sufficient qualification, yet they will have to go to the College of Physicians hereafter, when they abandon general practice, and they will be placed in an inferior position, which does not appear to be based upon any principle of justice. I may quote a passage in an answer made by the College of Physicians to the Council of the Provincial Medical and Surgical Association, as to this point: "The College has come to the conclusion that the act of grace for admission into the College without examination, under the provisions of the fifth clause of that charter, cannot be extended, with propriety, beyond the period of one year after the granting of the charter." It is an answer signed by Dr. Francis Hawkins, on behalf of the College, and it appears that Clause 5 of the charter admits M.D.'s only, not practising pharmacy within twelve months, and of course they admit them only on condition of not practising pharmacy. Supposing the present M.D.'s were practising pharmacy, and chose to continue in general practice over that twelve months, they are excluded, and must come in under an examination. They cannot take advantage of this clause in the charter of the College of Physicians, and that appears to be extremely unfair, because it excludes men who actually possess the same qualification which is admitted on behalf of those who are not practising pharmacy.

(To be continued.)

A SERIES OF PAPERS ON THE CAUSES AND NATURE OF CONTINUED FEVER.

By GEORGE TODD, Esq., Surgeon, Evenwood.

(Continued from p. 12.)

"Aer ipse, qui purus sacrum vitæ flammam alit, impurus factus, eandem vel statim extinguit potest, vel multis vaporibus onustus, aut nocivis quibusdam effluviis corruptis ingentem morborum cohortem inducere."—*Gregory's Conspectus Medicinæ.*

Contagion.

HAVING gone over the malarial sources of continued fever, I now come to the next great exciting cause of that disease—viz., contagion. This poison differs from that produced by the putrefaction of animal and vegetable matter, inasmuch as it originates, not external to, but within the body, and may be designated as a subtle secretion from the blood itself, the mode of the primary generation of which is, however, wrapped in the greatest obscurity. The intimate nature of this poison, like that from paludal sources, is quite unknown, and it is therefore better to confess our ignorance respecting its exact nature, rather than to attempt to enumerate the physical or chemical qualities of a substance which does not, with any degree of certainty, come directly under the operation of any of the senses. We cannot lay hold of the poison for analysis, consequently we are obliged to be satisfied at present with