by a roller steeped in the antiseptic oil. Round this again wrap a still larger piece of folded cloth, say a folded towel, also steeped in the oily solution of carbolic acid, and cover it with a piece of oiled silk or gutta-percha.

With a view to the intelligent application of this dressing, it will be well to state briefly its *rationale*. The watery solution is applied in order to destroy once for all any septic particles that may have been introduced into the wound; and the oily solution is employed to prevent the spread of putrefactive fermentation into the wound from without. The oiled silk, which is but slightly permeable to carbolic acid, protects the raw surface from the irritation of the acid in the oily cloth, and permits it to heal as under a scab. But though the ultimate office of the oiled silk is to protect the wound from the irritation of the antiseptic, it must itself be antiseptic at the time of application, and is therefore smeared with the oil, which in the course of no long time loses its carbolic acid by diffusion into the wound beneath. The substantial and widely extending oily cloth serves as a store of the antiseptic; but the bloody and serous discharge soaking into the porous cloth tends to wash away the oil and deprive the dressing of its antiseptic character; hence the necessity for the gutta-percha, which prevents the discharge from making its way directly outwards from the wound, and so establishing a road for the penetration of putrefaction inwards. At the same time the gutta-percha, though impermeable to watery or oily fluid, being readily permeated by carbolic acid, permits the antiseptic ingredient to pass in through it from the outer cloth and act upon the discharge that flows out beneath the overlapping margins of the gutta-percha. The outer cloth is intended to be changed as occasion may require, in order to keep up the supply of the antiseptic, while the gutta-percha and all beneath it constitute a more permanent application. The layer of gutta-percha or oiled silk outside the external cloth is to prevent the oil in that cloth from being wasted by soaking out into the surrounding articles of clothing, etc.; or, still worse, neutralised chemically by the penetration inwards of putrid blood or other discharges from the ambulance waggon or bedding. The circumferential part of the deeper cloth will, in consequence of its thinness, be kept completely antiseptic by the carbolic acid which passes inwards through the gutta-percha, while the deeper layers of the thicker portion over the wound will probably in a few days be destitute of antiseptic, and therefore of stimulating properties; hence the oiled silk, though desirable in order to insure the absence of "antiseptic suppuration", is by no means an essential part of the treatment, and if none of it be at hand the procedure may in other respects be conducted in the same way without it. Again, if the surgeon have no gutta-percha at his disposal, the risk that would otherwise arise from the permeability of the dressing may be overcome by frequently changing an external antiseptic cloth, or by treating its surface every few hours with the antiseptic oil.

The changing of the outer cloth will require care in order to avoid raising the edge of the gutta-percha along with it, and so admitting septic air towards the wound. It may be done with perfect security by having the cloth consist of two parts, one covering each half of the gutta-percha, and, as one half is raised, throwing a stream of watery solution (1 to 40) with a syringe upon the margin of the gutta-percha, a fresh oiled cloth being at once applied before the other portion of the former cloth is removed. If sufficient time cannot be spared for changing the outer cloth in this careful manner, it will be better for the surgeon to content himself with pouring fresh oily solution upon the exterior of the cloth without disturbing it, taking care that the oil enter well beneath its margins. I would advise that this should be done in preference where a large number of wounded have to be treated by one surgeon.

The strong oily solution (1 to 5) would irritate the skin if used continuously: after the first dressing a solution of half the strength should be employed, and after a few days it may be reduced to 1 to 20 if excoriation should occur.

The times of changing the outer cloth, or treating it with fresh oil, should be in accordance with the amount of discharge. During the first twenty-four hours the effusion of blood and serum is necessarily profuse, and it will be well that fresh oil be applied to the outer cloth within twelve hours of the first dressing, or even in six hours if there should be unusual oozing. On the second day, also, in the case of a large wound, two dressings in the twenty-four hours will be desirable. After this, if all go well, the discharge will diminish quickly, and a daily renewal of the antiseptic supply will be sufficient; and when five or six days have passed, to apply the oil once in two days will be all that will be required. This, however, should be continued after discharge has ceased entirely, till sufficient time has passed to insure that the wound has healed by scabbing, or at least has been converted into a superficial sore.

The earlier the case comes under treatment the greater will be the

prospect of success, but even after the lapse of thirty-six hours it need not be altogether despaired of.

In the case of compound fractures, the essential objects of the treatment may be attained by using splints constructed of stout iron wire bent into the form of the margin of a lateral splint, and strengthened by cross pieces here and there. Such splints can be readily extemporised by the surgeon himself, by help of two pairs of wire-forceps. The splints should be applied one at each side of the limb, without any padding opposite the seat of injury except the dressing above described, but padded elsewhere with any suitable soft material, an interval being left between such padding and the dressing. The outer layer of oiled-silk or gutta-percha should be applied outside the splints, so that all that will be requisite in order to apply oil to the outer cloth will be to take off the oiled silk with its retaining bandage, and pour on the oil through the ample intervals between the wires. Or the splints might be applied immediately external to the bandage that retains the deeper layer of gutta-percha, leaving the outer cloth to be wrapped round external to the splints, cotton or charpie imbued with the antiseptic oil being tucked in under the splints to keep the margins of the gutta-percha in apposition with the limb, the cotton being changed as often as the cloth itself.

For the sake of the general healthiness of the atmosphere of the crowded military hospitals, it is extremely desirable that even superficial granulating sores should be treated antiseptically. This may be done consistently with rapid healing by washing the sore with watery solution of carbolic acid (one to twenty), and covering it with two or three layers of oiled silk smeared with the oily solution (one to twenty), with well overlapping folded cloth steeped in similar oil, and over all a piece of gutta-percha tissue and bandage.

I have suggested in the above method the employment of such materials as are likely to be accessible to the surgeons of both armies. Other means exist, in some respects very superior. But the supply of these is at present limited, and those who possess them probably understand their use.

REPORT ON THE ORGANISATION AND EDUCATION OF THE PROFESSION IN GREAT BRITAIN AND AMERICA.

By N. PINCKNEY, M.D., Surgeon, United States Navy,
Delegate to the British Medical Association from the Navy Department and
Medical Association of the United States in 1869.

[We have been favoured with the following extracts from a report on the action of the British Medical Association, and on the organisation and education of the profession in Great Britain, by Dr. Pinckney, who visited this country as a delegate to our Association last year. A correspondence between Dr. Pinckney and Dr. Chadwick was published in the JOURNAL of August 14th, 1869. After expressing his gratification at the cordial reception offered to him at Leeds, Glasgow, and Exeter, and his wishes for the continued and extended confraternity of the profession in the two countries, Dr. Pinckney continues as follows.]

The British Medical Association was established thirty-seven years ago. It is, as in our country, the representative body of the profession at large. The colleges of surgery and schools of medicine had, until 1854, the entire control over what constituted the preliminary education to entitle a person to enter upon the study of medicine. It is not to be questioned that under this system a large number of incompetent men found their way into the ranks—men who could never hope to meet the high and responsible duties which the profession involves, and a conscientious performance of which the security of the public demands. The standard of the profession as a great science was thus greatly lowered, and the community at large became the unfortunate victims. Every effort was made to check the tide of this grievous public and professional wrong, but without avail. Finally, the tocsin was sounded, and the whole energy of the profession was aroused to provide a remedy for the evil. The Association, in its representative capacity, applied all the means in their power to construct a dam which would effectually resist the on-sweeping tide. They were Argus-eyed. Quietly yet persistently they entered the field, determined to vindicate the honour of the profession by elevating the standard of attainment. Great were the difficulties that surrounded them. But they were nothing daunted. With a heroism that cannot be too highly praised, and a self-devotion never excelled, the strong men, backed by the weight of the body, went to work in good earnest to see what

could be done to rescue the profession from disgrace. They knew that no great results are ever reached without concentration and combination of mind with mind and heart with heart. Public sentiment was aroused, public sympathy enlisted. All other professions enjoyed the protection of law. Government had secured to them ample safeguards, and hedged them in by wise landmarks. The appeal, then, must be made to men of power; Parliament be invoked to pass an Act looking to the correction of the existing evil. This was done. After years of labour and vexatious delay, their efforts were crowned with signal success.

The General Council of Medical Education was established by the Medical Act which was passed in the year 1858. It was, as I have stated, the result of the persistent labours of the British Medical Association, aided by the medical press, and the support of numerous members of Parliament. This General Council consisted of twenty-four (24) members; viz., a President, seventeen (17) chosen by the Universities and Medical Corporations of the United Kingdom, and six (6) others nominated by the Crown. The Council met frequently during the first year of its appointment, in order to establish a code of action as to the character of the education which should be required, the course of study to be pursued, and the examination to be passed. Having analysed and matured a plan, their sessions are held only once a year. It established the following regulations; or, to speak more guardedly, it submitted and recommended a plan to the colleges and schools of medicine for their future government: 1. Preliminary education; 2. Professional education; 3. Registry.

All surgeons and physicians are required now to register their names with their qualifications. Failure to comply with this requisition results detrimentally to the practitioner. For, by Parliamentary Act, those who have not registered their names and paid the necessary fee, cannot recover at law for professional services rendered. The General Medical Council have the power to recommend, but they do not possess the power to execute. Their power is a moral power; and yet nearly all of the schools have in a great measure followed their recommendations.

By this General Council, Government inspectors are established. Inspectors, two (2); Sub-Inspectors, twenty-five (25); Inspectors of Anatomy, three (3)—(for the metropolis, provinces, and Scotland).

The above-named inspectors are selected by the General Medical Council over parts of England, Ireland, and Scotland. The inspectors have the privilege of being present at the examinations conducted by the colleges and schools, but they can only give their views as regards the efficiency and inefficiency of the examinations. The duty devolved upon them is, however, a very important one. By its faithful discharge, the environs are guarded against the intrusion of mere charlatans, and the stimulus is applied to a more than ordinary watchfulness on the part of the schools; while the Association is made cognizant of what additional legislation, if any, is needed.

No man can then reasonably dispute that the establishment of the British Medical Association has been a signal benefit to the country. This educational system (both preliminary and professional) is based upon the most solid principles—stringent, yet just; searching, yet most impartial. The standard of education elevated, the profession at large is placed in the most enviable position before the public. It is not to be expected that a thorough reorganisation of a profession can be accomplished in a day. Time is needed to rectify evils that have been the growth of centuries, and are the incrustations of deep-rooted prejudices. Apathy is sometimes more dangerous and deleterious in its effects than activity in a wrong direction. The axe is now laid at the root, and it only requires bold determination to extirpate it altogether. Public sentiment is on the side of the General Council and the British Medical Association. Calm, persistent, determined action is all that is needed to reap the full harvest of the past seeding. It is not one nation only that is interested in this great reform. The whole civilised world has a stake in it. Is it not a burning disgrace that any Government should allow men, who are to be entrusted with the lives and happiness of its citizens, to go forth totally unfit to practise the profession of medicine? Is it not an outrage to permit colleges and schools to flood the land with pretentious ignorance, and thus deal death and destruction through its length and breadth? It may be said, without exaggeration, that the Asiatic cholera or the black vomit is not more to be dreaded than ignorant physicians or surgeons. In the one, the patient has the chances of constitution in his favour; in the other, he has not. Are the character, and dignity, and true glory of a noble profession to be prostituted to satiate the cupidity of our colleges and schools? The time has arrived when no effort should be spared to impress upon the Parliament of England the absolute necessity for the investment of sole power in the hands of the General Medical Council over education and registration, which are the foundation-stone of the

arch. This is positively required to ensure the complete success of the measures already adopted. Moral power is not sufficient. Full executive power must be superadded.

In addition to the representatives of the colleges and schools, and of the Crown, there should be direct representation of the medical profession in the General Medical Council of medical education. This is the jewel of the casket—a treasure not yet inserted. It is the restraining power—the power to prevent abuses.

You perceive, gentlemen, that the whole movement owes its beginning and progression to its present state of development, to the combined action of the profession at large and the schools, on a community thoroughly aroused to the magnitude of the crisis. The power should, on a principle of strict justice which ought to underlie all progress towards reform, be reposed in a fair representation selected from the whole.

Having been honoured by you with the distinction of representing you at the British Medical Association, and other similar bodies in Europe, I have brought back with me for your inspection the rich results of their wisdom, together with the fruits of their devotion to the honour of our science. We are the representatives of sixty-eight thousand physicians scattered over this broad and magnificent domain. With a flag that waves peacefully over south and north, and throws its clustering stars from the shores of the Atlantic to the Pacific, and gathers to itself, with almost every flapping of its gorgeous wings, new stars to increase the brilliancy of the constellation, we are here to-day in our associated strength to provide the things that constitute the true secret of power. Education, by common consent, lies at the foundation of the national prosperity—a broad, deep, thorough system of education. Shall we rise to the majesty of our position? What Great Britain has done, shall we ignominiously decline to do? Our Society is only six years younger than the British Medical Association was when it succeeded in getting the Medical Act passed by Parliament. Who of us but must blush to see the amount of work we have permitted to grow upon our hands—work which must be performed in the next ten years, or, if neglected, compel us to hang our heads in very shame. I am not ignorant of the fact that strong prejudices will meet us. Errors in the past system, which, if not so old, are more deeply rooted, will have to be grappled with. But I speak to the men of iron sinew, who delight in nothing so much as opposition, and who glory in nothing so much as a victory won after a desperate conflict. We shall have, on the one hand, the strong desire in the multitude to scale the walls that encircle the temple of our science, or by undermining to throw them down; while they are conscious to themselves that the claim we make to high professional attainment, which is the result of a severe mental discipline, can never be upset by fair and manly argument. On the other hand, we shall have to contend with the rival jealousies of our colleges and schools, and the timid policy of our politicians. But this ought only to whet our weapons of attack and fire our enthusiasm. Right is on our side. The honour of the profession is at stake. We ask nothing that is unreasonable. We do not propose to draw around our profession any invidious lines of demarkation. We only ask that men properly qualified, after strict examination and registry, be admitted into our membership. We deprecate the intrusion of ignorant charlatans into our midst, and seek the broad shield of Law for our protection. No time is to be lost. It has given me the sincerest pleasure to pay a just and deserved compliment to England, who has taken the initiative, and made good progress in the work. I shall be sadly disappointed if our Association does not crown the meeting of 1870, in the metropolis of the nation, by a step taken in the right direction. We have power. What? tell me that the hundred representatives, backed by thousands who reflect the opinion of thousands more outside of the profession, have caught the spirit of enthusiasm that is all aglow within it, have not power to accomplish a reform as much needed as any reformation ever wrought anywhere. Centralisation and combination are all that is required. Centralisation—the meeting in one grand focus of all the rays of light; combination—the blending of the powers centralised; and what can resist the will of sixty-eight thousand men who only ask to be saved from the dishonour of ignorance and presumption. I tell you, gentlemen, we have been hitherto the willing dupes of our own apathy. We have not enjoyed the sweet fruits of our own power, simply because we have not dared to exercise it. Do you ask me how to begin and prosecute this work? I answer, by personal efforts unremittingly made; by appeals to the justice of our law-makers, state and national, pressed with all the earnestness and eloquence in our power. Do this. Lend to this cause the weight of this august body, not the weight of mere vapid resolutions spread on the statute book, but the weight of the eye of fire and the tongue of eloquence, and still mightier tongue of a hard and invincible logic; and in a few years from this time, your representatives to the British Medical Association will be enabled

to hand back their own beautiful educational system more than counter-signed, and exhibit to the world the glorious spectacle of St. George's Cross and the star-spangled banner waving harmoniously over a profoundly educated medical profession in each country.

It seems to me that we might transplant another flower from the English system to our own soil with great advantage. They have twenty-one branches, each with its own officers and its own patrons. The laws are submitted to the Committee of Council of the parent Association, and have to be approved by the Council before they are valid. These branches have annual meetings, and some of the branches meet more frequently—to discuss medical and surgical subjects. It is impossible to conceive of the mental stimulus which is infused into a body that meets so often to discuss. Indolent men, men who see a lion in the way, and are always coldly calculating the difficulties to be overcome, will counsel a prudent look out. I write not for such. I write for those who feel that they have a heritage of glory to transmit, and are not satisfied to live altogether on the fame of others.

In my visit to England, at the cost of much labour, first in the civil and then in the military department, in London, Leeds, and Glasgow, I was animated by a single desire to do all I could to arm myself with British precedent on the great question of reform I counsel. I knew that whenever reform is suggested, the cry of fanaticism is raised, and the charge of impracticability is alleged. I therefore stand on principle backed by precedence. The honour of the profession at stake. It is pleasing to look to the land of Cooper, Bell, and Hunter; and in its devotion to the cause of science we shall find more than a warrant for our own. What the British Medical Association accomplished, we can. There is no forbidden fruit in this garden. The two great civilisations of the world, England and the United States of America, may occupy the same sublime standpoint, and feel justly proud of each other's fame. I am strong in the confidence that you will more than endorse the views I have advocated—that you will labour to make the general medical standard of education what it should be, at once practical and thorough—that you will show to the world that in your judgment a diploma is not of itself proof of fitness to practise. Clinical study is the keystone of the arch. All that is needed is concert of action and thoroughness of examination. If I have succeeded in throwing any light on the question, I shall have accomplished one end of my mission.

NOTES ON THE EPIDEMIC OF RELAPSING FEVER IN LIVERPOOL.

By ROBERT GEE, M.D., M.R.C.P.,
Physician to the Liverpool Fever Hospital, etc.

THE type of fever characterised by relapses has not, to my knowledge, assumed an epidemic form in Liverpool till within the present year. The type usually met with in the town is typhus, and that in its most pronounced features. Typhoid fever is of comparative rarity; it has not been epidemic here since 1844, except in one of our suburban districts two or three years ago. The simple continued form, and sympathetic fever depending on gastric or other lesions, are as frequently seen here as elsewhere.

The constant presence of typhus is probably owing to the defective construction of many of the streets and courts, the prevalence of overcrowding, destitution, and intemperance, to which may be added the filthy habits of the lower classes of its inhabitants; while the absence of enteric fever may be attributed to the favourable position of the town for drainage, and the great attention paid to it by the municipal authorities. An ample supply of water, favouring the speedy removal of excreta, may also be an important element in keeping it in abeyance.

Relapsing fever in an epidemic form has now, however, become a fact. It has gained a firm footing, supplanted its more formidable ally—typhus, and assumed such proportions as to call forth the best energies of the Select Vestry to meet its ravages by providing sufficient and suitable accommodation for the treatment of its victims other than in their own unsuitable homes. The idea has been generally entertained that the epidemic of 1847—the Irish fever—was an epidemic of relapsing fever; but it is a mistaken idea. The character of that epidemic was unquestionably typhus; and cases of relapsing fever were exceedingly rare. Typhus has been unusually rife during the present decennial period, reaching its culminating point in 1865. Since then, it has steadily declined. In March and April of the present year, a

much larger proportion than usual of cases of simple continued fever were admitted into the Fever Hospital; and towards the end of May, the first cases of relapsing fever were observed. It is true that cases were sent in at an earlier date with "relapsing fever" on the orders; but, after careful observation, they proved to be cases of febricula. This remarkable feature must be noticed that, concurrently with the decline of typhus, there was a marked increase of cases of febricula (many of them being of a serious character); and that this intermediate affection, in its turn, gave place to fever of the relapsing type. The latter at first slowly and then rapidly increased, so that there are at present no fewer than 730 cases under treatment in Hospital. I shall not attempt an explanation of the phenomenon; but it is evident that there is some law regulating the generation of different types of fever which has not as yet been discovered.

The total admissions into the Fever Hospital and its adjuncts since the beginning of July have been as follows. Week ending July 10th, 72; 17th, 102; 24th, 91; 31st, 118; August 7th, 191; 14th, 188; 21st, 166; 28th, 240.

[To be continued.]

ABSTRACTS OF LECTURES ON HYGIENE.

Delivered at University College, London.

By W. H. CORFIELD, M.A., M.B. Oxon., M.R.C.P. London,
Professor of Hygiene.

LECTURE II.

HAVING considered the ages, with their special diseases, we will now say a few words on the influence of sex.

The blood of women is richer in water and in albumen than that of men, but poorer in the other constituents. Women can and do habitually support easily great losses of blood. They seem to have naturally, if I may so speak, a superabundance of it. Witness the menstrual flow, the nourishment of the *fetus in utero*, the very great losses which often occur after childbirth without much inconvenience, and then the drain on the economy from the secretion of milk: such are losses which no man could stand with impunity. Menstruation is characteristic of woman; but habitual continence causes in man emissions of seminal fluid which have been called "masculine menstruation", and which cease on the exercise of the generative function. Women may have their menstrual flow stopped by any strong emotion, or occasioned, after it has ceased, by strong amorous ideas, especially in dreams.

During pregnancy, troubles of the digestive apparatus are very common—false tastes, whims about food, vomiting, etc. At this time and during lactation, there is especial need for good nourishment; but note that ordinarily women have less absolute necessity for food than men, and can endure abstinence much longer without discomfort. Their digestive apparatus accounts for this; their smaller stomachs and shorter intestines giving less room for food, while the greater number of lymphatics causes a quicker and more complete absorption.

The lungs of women are smaller than those of men, and their respiration is more feeble. They have less need of oxygen, and can stay in close rooms without much discomfort.

The secretions are more active in man, except that of fat, which is more abundantly secreted in woman.

With such differences, and many others, added to those of habits, we may expect that men and women are differently subject to diseases; beside the obvious fact that each sex may have diseases which the other cannot have. Thus women, from their domestic habits, are more subject to contagious diseases; from their sedentary habits, to anæmia and indigestion, with its resulting constipation; less to accidents and to the results of overwork (mental and bodily), or of exposure to the weather (pneumonia, bronchitis, etc.)

With regard to most diseases, no accurate statistics have as yet been made out.

Hysteria is more common in women; perhaps epilepsy also.

Chlorosis is especially common in girls before puberty. Ulcer of the stomach "is especially found in maid-servants between the ages of eighteen and twenty-five" (Aitken).

Scrofula is about equally distributed in the two sexes. Cancer is apparently most common in women; but this is doubtful. Many cases