

## British Medical Journal.

SATURDAY, FEBRUARY 10TH, 1912.

### EDUCATION OF CHILDREN IN THERAPEUTIC INSTITUTIONS.

PERHAPS the most important and suggestive aspect of the antituberculosis movement is that which concerns school children. What is the degree of incidence of tuberculosis in children? On what points is the diagnosis to be based? What measures are to be adopted for the protection and recovery of the affected? To what extent are such measures compatible with the maintenance of regular education? These are some of the questions which meet us on the threshold.

There can be little doubt that tuberculosis is much more frequent in children than was formerly—or, indeed, is generally—supposed. This view has in this country been advocated especially by Dr. R. W. Philip of Edinburgh, who, in a lecture before the Washington Tuberculosis Congress in 1908, stated that his personal observation had led him to the conclusion that no fewer than 30 per cent. of school children presented stigmata of tuberculosis; and abroad by Escherich, Hamburger, Monti, and von Pirquet. The more the facts are scrutinized the more does the view appear justified, though it cannot be said that it has been generally accepted by those concerned with the education of children or with the training of students of medicine. There is still much disregard of refined methods of diagnosis. A positive diagnosis is still limited too frequently to the undoubted case of so-called phthisis—a term which, if it means anything at all, means an advanced degree of tuberculosis. Many physicians hesitate, indeed, to admit the diagnosis unless tubercle bacilli be demonstrable. But tuberculosis is a slowly advancing infiltrative infection, and its manifestations are as definite as those in early syphilis. As the diagnosis of tuberculosis comes to be commonly made at this early stage, so in direct proportion will prophylactic and curative measures prove effective. As a rule, when tuberculosis can be reasonably suspected it is actually present, and the fact can usually be determined if only the patients be subjected to a sufficiently systematic and thorough examination on modern lines.

Without pinning ourselves down to a definite percentage, we may yet admit the great frequency of tuberculous infection in children, and are therefore bound to inquire what measures should be adopted in the interest of the child's health and education. It is manifest that for the larger number—that is, for those infected in slight degree—little more is needed than the intelligent application of large hygienic principles in the school, and, so far as it can be obtained, in the home. Much has been said as to the need of open-air schools for various groups of delicate

children. The truth is, all schools ought to be directed on open-air principles. Artificial systems of ventilation should be abandoned as unphysiological. Natural cross-ventilation from large windows freely open should be encouraged. The child should be taught the greatest lesson of practical hygiene from day to day through the ever-open window. The evil effect of protective measures, whether in the direction of close, warm rooms, or in that of excessive, tight-fitting clothing, must be exposed and combated. School buildings should be simpler in construction, and the outlay thus saved should be spent in the provision and equipment of larger playgrounds.

Granting these general principles, we may be ready to agree that there is need for more rigidly open-air schools for children who are already definitely affected by tuberculosis, but who, without damage to their health, remain capable of education. Such schools ought to be related to—or rather, we should say, ought to be under the medical direction of—a recognized tuberculosis organization or institution. The institution may either be a sanatorium, as in the case of the school of the Royal Victoria Hospital at Edinburgh, which has been in active operation for a good many years, or a tuberculosis dispensary, as in the case of the Kensal House School, London, which is under the medical superintendence of the Paddington and Kensington Dispensary for Consumption. The essential point in the creation and government of such a school is that in matters medical, where the child's health is primarily concerned, the direction be vested entirely in the hands of the medical staff. It is natural that the Education Department or local education authority, in recognizing such a school, should satisfy itself as to the character of the medical institution under whose guidance the school is to be conducted, but it is equally clear that there should be no interference in relation to the actual medical direction.

Under such conditions, the possibilities of benefit to the community are conspicuous. It has been shown by experience, in Edinburgh, Liverpool, and London, that when simple lessons are adapted to the age, progress, and physical state of each child, a large amount of satisfactory education may be maintained, and that the progress of the child towards recovery is definitely hastened by the mental activity. Physical improvement and mental development go hand in hand; the same applies to crippled children under orthopaedic or other surgical treatment. Instead of the waste of time which enforced residence in a sanatorium or hospital would otherwise entail, the period of residence is profitably employed in the interest of education.

It is to be hoped that in the near future progressive educational authorities will generally appreciate the purpose and far-reaching significance of the combination to which we have referred. In London, so far, things have worked smoothly, despite the very deliberate ways of the Board of Education; it approved the first cripples' school which was started by Dr. Macalister for Liverpool children, but hesitated for more than a year before consenting to the proposal of the London County Council to take over the school for cripples established by private enterprise in the wards of the National Orthopaedic Hospital. This school, one of a group of schools for physically defective children, is associated with that in the Alexandra Hospital for Hip Disease, and it speaks well for the tact and good sense of all concerned that in more than ten years there has not been any friction in its working between the authorities of the Council and those of the hospitals.

Besides these two hospital schools, in which the teachers and the necessary apparatus are supplied by the Council, there are thirty-eight day-schools for cripples scattered about London; the tuberculosis school, to which reference has already been made, is carried on in a large house and garden rented by the Paddington Dispensary, but teachers and materials are supplied by and at the expense of the Education Committee of the London County Council. This is an open-air school when climate permits, and the object which the committee of the dispensary has in view is, while ensuring that the children are instructed in the ordinary subjects of elementary education, to teach them to live properly in their own homes, and so prevent them from becoming chronic consumptives and sources of infection to others. Last year there were over 80 children attending this school; this is a small number compared with the tuberculous population of London, but it is hoped that from these small beginnings great things may grow. Indeed, the London County Council has for four years maintained three open-air schools, but only one of these—that at Forest Hill—is open at this time of year. It is much to be wished that all the cripples' schools should be conducted in the summer months out-of-doors, and probably this will come in time. When the School Board for London handed over its duties to the London County Council, those ladies who had done such good work upon the Board found themselves ineligible for membership of the Council; but their services were not lost to the public, for administrative posts were found for them. At the present time the special schools are under the able superintendence of Mrs. Burgwin, who has seen and taken part in their establishment under the Board.

The proposal rejected in Edinburgh seems to have been closely similar to that accepted in London. The School Board of Edinburgh, in reply to the request of the Managing Committee of the Royal Victoria Hospital, failed (by a majority) to see its way to co-operate with the medical authorities of the hospital, who have for a good many years treated and taught a considerable number of tuberculous children. The proposal was a practical and inexpensive one, amounting to this—that the School Board should avail itself of the exceptional opportunities for the medical treatment of such children, and co-operate, in the interests of the children and of the School Board alike, by providing two or more teachers and a suitable classroom, so that the actual teaching might be conducted on more formal lines than were possible at the hands of voluntary teachers, the hospital authorities holding themselves responsible for the residence and maintenance of a large number, and for the medical supervision of all the accepted pupils. The School Board seems to have taken the untenable view that tuberculous children were either not worth educating at all or were likely to suffer by studies, notwithstanding the fact that these studies were recommended and were to be supervised by the medical authorities of the hospital.

### THE PATHOLOGY OF ACUTE POLIOMYELITIS.

THE distinction between regional and generalized infectious diseases is frequently artificial. Many diseases which remain for the most part local, nevertheless produce a profound effect on the whole body. On the other hand, a disease which is generalized at

an early stage may produce its most obvious lesions in certain restricted local areas, as, for instance, in a typical case of typhoid fever.

Acute poliomyelitis has generally been regarded as a disease in which the virus and essential tissue changes are confined to the central nervous system and its membranes—if we except the naso-pharynx and, in the case of experimental monkeys, the site of inoculation and the lymph track thence to the nerve centres. Flexner has recently published<sup>1</sup> the results of the *post-mortem* examination of eleven children, of whom ten died on the third to the eleventh day from the onset of acute poliomyelitis. He describes widely distributed pathological changes as occurring constantly in these cases. Besides the well-known lesions found in the central nervous system during the acute stages of the disease, the changes observed by Flexner were found in the lymphatic tissues, the spleen, and the liver.

He found hyperplasia of the lymphoid tissues throughout the body, especially in the lymph glands, and in the lymphoid tissue of the small intestine. The increase of the endothelial cells in the central parts of the glands was especially remarked, and was accompanied by softening of the glands. The spleen was enlarged and its Malpighian bodies increased in size. Other changes described as characteristic consisted of necrosis of groups of liver cells; the dimensions of such a group varied from a few cells to one-eighth of a lobule. The necrosis was succeeded by an invasion of lymphoid cells and polymorphonuclear leucocytes, and by rapid regeneration, evidenced by the active multiplication of liver-cell nuclei.

The general increase of lymphoid tissue in this disease has been briefly alluded to by previous writers, but widespread changes have not been so definitely described before, and have generally been regarded as inconstant. It remains to be shown whether the changes in the lymphoid tissues and spleen and in the liver indicate the presence of the living virus in these organs, or are due to toxic products formed at a distance.

The experimental evidence for the existence of virus in the internal organs, except the central nervous system, is not quite consistent. The experimental disease has very rarely been produced in monkeys by virus derived from parts of the body other than the central nervous system or the naso-pharynx. Krause and Meinicke, however, claim, and Marks has apparently proved, that the blood, spleen, and liver can convey the disease to rabbits, though in these animals the symptoms are of a very equivocal kind. The proof of the identity of the disease in rabbits and monkeys is only obtained when a monkey is again infected from a rabbit and shows signs of typical poliomyelitis.

Further additions to our knowledge of this disease from the experimental side have recently been published by Levaditi and his co-workers.<sup>2</sup> They show that though washings of mucus from the nasal cavities of an infected monkey are not capable of causing the disease when injected into another monkey, still the virus can be obtained by inserting a tampon into the diseased animal's nose and using for inoculation the fluid which has collected in it after twenty-four hours.

Levaditi, Gordon, and Danulesco,<sup>3</sup> have shown that the virus obtained from three fatal cases of acute

<sup>1</sup> *Journal of the American Medical Association*, January 13th.

<sup>2</sup> Landsteiner, Levaditi, and Danulesco, *Compt. Rend. d. l. Soc. d. Biolog.*, December 2nd, 1911, p. 558.

<sup>3</sup> *Compt. Rend. d. l. Soc. d. Biolog.*, December 16th, 1911.



epidemic poliomyelitis which occurred in the South-West of England during 1911 is able to impart the disease to monkeys. The English epidemics are thus brought into line with those from which active virus has been obtained in Austria, Germany, the United States, and France.

### PELVIC HAEMORRHAGES AND ECTOPIC GESTATION.

DURING the past ten years, as we have already had occasion to observe, clinical evidence has shown that the tendency of gynaecologists to ascribe all pelvic haematoceles to rupture of an ectopic sac has been pushed to extremes, and has therefore led to error. Those same observers who at first denied the possibility of primary ovarian gestation ultimately acknowledged the ocular proof afforded by Van Tussenbroek, and they must now admit that, as was once believed very widely, pelvic haematoceles may be due to the rupture of haemorrhagic cysts of the ovary. The proof has been demonstrated by several French writers—De Rouville, Bender and Marcille, Tartanson, and Jayle—whilst Bazy has attempted to prove that severe haemorrhages may be derived from the Fallopian tubes themselves, quite independently of tubal gestation, a theory which gave rise to several discussions at meetings of the Obstetrical Society about twelve years ago.

The question is highly important in relation not only to medico-legal questions, but to obstetric science as well as to pure gynaecological pathology. A very careful report, recently published by Leriche and Blanc-Perduet of Lyons,<sup>1</sup> deserves therefore very careful consideration. The patient was a woman aged 43, who had been pregnant eleven times, including five miscarriages. There was a history of swelling in the left iliac fossa after the first pregnancy. In August, 1909, she underwent an operation for what, according to her account, would seem to have been early rupture of an ectopic sac, and a second, ten days later, for femoral hernia. In April, 1911, a severe attack of abdominal pain set in, when the periods were ten days overdue. The patient was admitted into hospital after about a week's delay. There was a tender mass in Douglas's pouch, simulating a retroverted fibroid uterus, and it should be noted that haemorrhage from a ruptured vein in a fibromyoma of the uterus has been observed by Herbert Spencer and others. Leriche operated and found a great quantity of clotted blood in the pelvic cavity. The uterus, which was in a condition of general fibromatous degeneration, was removed with the appendages. Convalescence was uncomplicated. There were no membranous shreds nor any other evidences of recent or old peritonitis. The Fallopian tubes were the seat of inflammation, but were permeable and free from any fetal sac, clot, or dilatation. The ovaries were distinctly enlarged and sclero-cystic. There were two small blood cysts in the left ovary—a condition not rare in late sclero-cystic degeneration. The same condition existed in the right ovary, which contained one cyst as big as a pigeon's egg, showing evidence of a recent laceration on its outer wall. Its interior contained a clot. The Fallopian tubes and the ovaries, especially the right organ at and close to the ruptured cyst, were carefully examined under the microscope, and no traces of fetal structures nor chorionic villi could be

detected. The cyst was not derived from a corpus luteum, but was follicular and the result of sclero-cystic changes, which were associated, as others have noted, with fibrosis of the uterus. Thus the severe internal haemorrhage was independent of ectopic gestation or normal pregnancy.

The diagnosis of ruptured ovarian blood cyst from a ruptured tubal sac or a tubal abortion attended with free bleeding is not easy. In the case recorded by Leriche and Blanc-Perduet the patient during the ten days before the attack of acute haemorrhage suffered from dull hypogastric pains of a colicky character and began to feel weak. The periods were, we have noted, overdue. The acute symptoms subsided a little as the patient kept her bed; but fresh attacks occurred, and, let it be remembered, clot, mostly in stringy shreds, came away from the uterus. When the woman wisely applied for hospital relief and was admitted, a pelvic mass was detected, but a morbid condition of the uterus rendered this physical sign less characteristic. Still, all the usual symptoms of intermittent intraperitoneal haemorrhage due to tubal abortion were present. The stringy clot was not examined, as the case was urgent, but one distinct negative symptom was noted when the patient was placed in a hospital ward. There were no changes in the mammary glands indicating early pregnancy. Jayle collected reports of fifteen or sixteen instances of ruptured blood cyst, the more recent being without doubt genuine. In one of his own the patient was a maiden lady aged 42, and the characteristic attacks followed three successive monthly periods. Menstruation had always been regular, and exploration was difficult on account of sclerosis of the hymen. Other recorded cases are not so clear.

Any bloody discharge from the uterus requires careful examination; but although no uterine decidua can exist in these cases, that structure is not always to be found in the far more frequent cases in which tubal pregnancy is the source of the haemorrhage. It has often been passed before the patient comes under a doctor. There are also fallacies, well known to the experienced practitioner, about the appearances of the breasts. Whilst diagnosis is so uncertain there can be no doubt about treatment. When a surgeon has to deal with haemorrhage he must stop it. In a case of this kind haemostasis can be effected by opening the abdominal cavity and removing the bleeding ovary. There is seldom, if ever, much difficulty about ovariectomy under the circumstances, as the ovary is relatively small and firm adhesions are rare. Lastly, the organ removed should be placed in the hands of a competent pathologist. Then, and most likely not till then, the absence of chorionic villi and fetal relics will show that the ovary is not the seat of a primary ectopic gestation, whilst other appearances will prove the existence of sclero-cystic degeneration, involving the wall of the cyst whence the blood issued. On no account should this systematic examination for fetal relics be omitted, as the question of the possibility of pregnancy may be a matter of gravity. It is only under opposite conditions, when the internal haemorrhage is found to arise from a sac and a fetus is discovered in or outside that sac, that the microscope is not absolutely necessary for diagnosis.

In conclusion, it may be said that there can be no doubt that in relation to haemorrhage from a tubal fetal sac these bleedings from haemorrhagic ovarian cysts are exceedingly rare, but it is by no means proved that they are rarer than haemorrhage from a true ovarian fetal sac.

<sup>1</sup> *Annales de gynéc. et d'obstét.*, September, 1911, p. 529; see also Jayle, *Revue de gynéc. et de chirurg.*, March and April, 1908.

## THE INTERPRETATION OF DIFFICULTIES.

MR. LLOYD GEORGE has contributed a preface to a book entitled *National Insurance*,<sup>1</sup> written by Mr. A. S. Comyns Carr and Mr. W. H. Stuart Garnett, Barristers, and Dr. J. H. Taylor, a member of the Council of the British Medical Association. The body of the book consists of a commentary, in six chapters, on the employer, the insured person, administration, the medical profession, sanatorium and maternity benefits and public health, and on finance. This is followed by a text of the Act with notes. In the commentary it is said that "The Act does not establish in any way the cost of medical benefit, and the estimate of 6s. per annum is purely speculative." In the notes on Section 15 it is pointed out that in framing the Act it was assumed that 6s. per annum would suffice, but it is argued that as, after estimating the cost of the other benefits, there is a margin of 1s. 8d. a year in the case of men and 2s. 1½d. a year in the case of women, and that the contribution assigned for sickness benefit contains a margin of not less than 10 per cent., the whole of the margin expressly assigned in the actuarial tables ought to be available for either additional benefits or for the cost of medical service; "it appears possible that 7s. for men and 7s. 6d. for women might be assigned for the cost of medical benefit without rendering the scheme insolvent." Mr. Lloyd George's preface is devoted to generalities. He says: "In the National Insurance Act it has been our aim to provide, as far as may be, for every worker some kind of shelter against the slings and arrows of fortune. In doing so we have not, I think, laid any real additional burden upon the wealth and productive ability of the nation. We have substituted for tardy relief provision made in anticipation of need, no more costly but infinitely more effective and more kindly in its operation than distress funds or the Poor Law. Some remain, for the moment, wholly or partly outside the operation of the scheme. We have not even yet been able to reach the lowest depths, to grasp the utterly incapable, the loafer, or the wastrel, and set him, too, on the firm ground of self-respecting manhood, fit to withstand all the shocks of adversity, but we may claim to have established barriers to prevent men falling into that abyss of human despair. We have in one great measure swept into the National Insurance scheme some 10,000,000 workers hitherto unprovided for. Much remains to do, and in the coming years much may be done, but here at least is a beginning, made on a broad and comprehensive plan." He admits that in so large a measure whatever care may have been taken in the process of draftsmanship points of difficulty will arise, more especially as the Act traverses so much untrodden ground. He recommends the book as an attempt to anticipate and elucidate the difficulties.

## COUNSELS' OPINION.

LAST month the *Practitioner* submitted to three counsel learned in the law the question whether under the Act the Insurance Commissioners or the Insurance Committees have power to make arrangements with medical practitioners embodying all or any and, if so, which of the six cardinal points. The counsel consulted were Sir E. Clarke, K.C., Mr. W. O. Danckwerts, K.C., and Mr. Stuart Bevan, and the opinions they gave were issued on February 1st. They do not contain anything very novel, and are chiefly of value as confirming the view as to the injurious effect of the provisions of the Act as they concern the medical profession. With regard to the income limit of £2 a week, all three counsel of course agree there is no such limit in the Act, but all three point to the provision of Section 15 (3) requiring the Insurance Commissioners to make regula-

<sup>1</sup> *National Insurance*. By A. S. Comyns Carr, W. H. Stuart Garnett, Barristers, and J. H. Taylor, M.A., M.B., Ch.B. With a preface by the Right Hon. D. Lloyd George, M.P. London: Macmillan and Co., Ltd. 1912. (Med. 8vo. pp. 534. 6s. net.)

tions authorizing the Insurance Committee to fix a limit Sir E. Clarke and Mr. Bevan express the opinion with respect both to this and to the non-manual labourer with remuneration above £160 a year, who by Schedule 1 (Part II, g) would be excluded from medical benefit, that the Insurance Committee will have no power to inquire into the total income of an insured person. Sir E. Clarke writes: "I do not see how it would be practicable to enforce a limit except on the basis of the weekly wage;" and Mr. Bevan that "there is nothing in the Act itself which excludes the non-manual labourer, who in addition to a remuneration below £160, has a private income amounting to any sum whatever." As to voluntary contributors, both these counsel agree that the limit of a total income from all sources of £160 a year only applies to voluntary contributors, and only to them during the first five years of their insurance. So that there is still hope for future Governors of the Bank of England and Chancellors of the Exchequer who are now at school. As to free choice of doctor, the three counsel merely set out briefly the effect of the provisions of the Act, but none of them touch on Section (15) subsection (4) (Harmsworth amendment). The opinions on the administration of medical and maternity benefits merely set out the facts, with the exception that Sir E. Clarke thinks it "probable that the representatives of the approved societies will be at least one-half of the whole [Insurance] Committee." As to the mode of remuneration Sir E. Clarke believes that the obligation on the local Insurance Committee to consult the recognized local Medical Committee on all questions affecting the administration of medical benefits would cover the question of the method of remuneration, and he seems to think that the regulations made by the Insurance Commissioners might require the local committee to adopt a plan approved by the Medical Committee. Mr. Danckwerts is less optimistic: he merely says that the Commissioners' regulations will provide for the nature of the arrangements, and that local Medical Committees "have some power of enforcing their views and regulations may be made in regard thereto." Mr. Bevan, after pointing out that the Medical Committees are merely consultative bodies without powers to enforce their views as against the Insurance Committees, continues as follows: "It may be, however, that the regulations to be made by the Commissioners and the provision in the section that the Medical Committees may exercise such powers as may be determined by the Commissioners may result, when those regulations are made and those powers defined, in the Medical Committees having some power of enforcing their views. The Act, however, contains no guarantee that such will be the case." As to the rate of remuneration, it is agreed that this will be a matter for contractual arrangement in each case. Mr. Danckwerts adds: "Though this is so in general, I think the Commissioners' regulations to be made in conformity with Section 15 (1) as to the nature of the arrangements may more or less effect something towards conformity with this demand. It must not be forgotten that the funds available are limited." Mr. Bevan concurs, but adds: "As the Act stands there is nothing to indicate that what is considered to be adequacy of remuneration will necessarily be secured." As to the sixth point, adequate medical representation on the administrative bodies set up under the Act, the opinions merely set out the well-known facts. In a brief general opinion on the powers of the Insurance Commissioners Sir E. Clarke expresses the view that as to method and amount of remuneration the powers are sufficiently wide "to enable them to yield to the wishes of the medical profession"—an ambiguous expression which must be read with his observations under each head separately, and then seems to amount to very little, and that the administration by Insurance Committees as now constituted, and the representation on the administrative bodies being matters controlled by the express provisions



of the statute cannot be modified in any way. Mr. Danckwerts contents himself by expressing the view that Section 62 seems to him "to leave room for the Commissioners giving local Medical Committees effective powers in regard to many of the matters raised."

#### "THE PROFESSION AND THE POLITICIANS."

IN a short article under this heading which appeared in the *BRITISH MEDICAL JOURNAL* of January 27th, p. 206, we commented on some opinions which Mr. J. M. Robertson, M.P. for Tyneside, was reported to have expressed as to the political incapacity of doctors. As will be seen from a letter which is published at page 336, our remarks have made Mr. Robertson very angry. He evidently has the intolerance of the slightest criticism characteristic of politicians of his type. But as Disraeli said of Vernon Harcourt, his invective lacks finish. He tears his passion to tatters. He denies having said that the violent and furious opposition of doctors to the Insurance Act is due to their being mostly Tariff Reformers. If this be so he has been ill used by the local press, for we find in the *Newcastle Daily Journal* of January 16th that, speaking of doctors, he is reported to have said "the majority of them were probably Tariff Reformers, and it was on that ground, he was afraid, that they had been so ready to set up all that violent and furious opposition to the Insurance Act. If it had been a proposal to levy a tax to make the people's food and boots dearer, there would have been no meeting of doctors to protest. They would have said nothing." Mr. Robertson, as far as we have seen, has not repudiated this report. He virtually admits its substantial accuracy in the letter we publish, when he says that the majority of doctors would make no protest against a tariff which raised the price of food and manufactures for the masses. And this for what Sir Toby Belch would call the exquisite reason that the "tariffist doctor" either thinks prices would not rise or believes that he would be compensated by higher fees! He surely must give the doctors credit for knowing that if the cost of living rises it must affect them more than any other class of the people, for they are always the last to be paid, and a rise of fees would then probably lead to a greater number of bad debts. As regards the "general Toryism" of which Mr. Robertson speaks with such confidence, we repeat that he has no right to assume this as a fact; indeed in the correspondence into which his hasty generalization has forced him, he calmly owns that "naturally" his statement is "unproved" as there is no political census of doctors. We are inclined to think that the general Toryism imputed to doctors by Mr. Robertson is what our antivivisectionist friends call a "platform fact." We have no reason whatever to believe that the shouting down of Sir Victor Horsley—of which we may say in passing that it was worse than a crime, it was a blunder, besides being a gross discourtesy to a distinguished man—was inspired by political feeling. Our impression is that a large proportion, if not a majority, of the profession are indifferent in the matter of politics. Their attitude would be aptly expressed by the old lines:

I care not a fig  
For Tory or Whig,  
But I sit in a bowl and kick round me.

The doctor's work leaves him no time for the wirepulling of political life and his training tends to disgust him with its sophistries. It is only fair to Mr. Robertson to add that, as is shown by a later speech reported in the *North Mail* of January 24th, he has found it politic to change his ground. He there attributes the opposition of the profession to "panic," and adds that he had been assured by medical friends that it was this and not Toryism which had inspired a great deal of the doctors' denunciation of the Liberal Government. Mr. Robertson seems to think that we should have given an account of the "general

case" as put by him to the blameless Hyperboreans whom he was addressing. This would have been irrelevant, as we were only concerned with his attack on doctors as politicians. Moreover, our readers have had the opportunity of seeing all this "put" by men who can speak with greater authority, and it seemed superfluous to trouble them with it all over again. Regarding the 10,000 doctors, we quoted Mr. Robertson's own words, and we asked—and we once more ask—where he thinks they are to be got. We will better his instruction by suggesting that, as a preliminary to understanding, he should take the trouble to read what he is replying to. We are not concerned to defend the quality of our "fun," though, as Francis Jeffrey said in like circumstances, we might appeal to a gayer critic. We may conclude with a word of advice to Mr. Robertson. Instead of trying to make people believe that the opposition of the medical profession to the Insurance Act is political in character, he would do well to cultivate the innocence of Mr. Lloyd George, who, at the City Liberal Club on Saturday last, said that, with the exception of Mr. Shackleton, he had no notion to what party any of the English Insurance Commissioners belong, nor did he think any one else had. This pastoral simplicity somehow recalls the Dartmoor shepherd, but it is better than gratuitous denunciation of a body of men as Tories because they have not the true faith in a particular piece of Liberal legislation which a partizan with the spirit of Torquemada insists upon as necessary to political salvation.

#### THE TREASURY AND THE INSURANCE ACT.

THE London newspapers which are commonly looked upon as the organs of the Government—the *Daily News*, the *Daily Chronicle*, and the *Westminster Gazette*—have during the last few days contained a series of articles which are significant. The first article in the *Daily News* assumed a somewhat threatening tone and contained the accusation that the doctors were acting from political motives, or were at least allowing themselves to be used by a political party. This attitude has been to some extent modified, and even in the first article it was recognized that the estimate of 6s. per member for medical benefit is too low if a comprehensive definition is to be given to treatment. The bogey of a whole-time medical service was trotted out, but from the general tone of the articles it is to be gathered that this is not seriously contemplated, and it is now being pointed out that the question of remuneration has been left open for settlement between the Insurance Committees, or "conceivably the Commissioners," and the doctors. "It has," the *Daily Chronicle* continues, "been assumed all along that because the sum of 6s. for each insured person per annum was mentioned in the Treasury estimates to cover medical benefit this was the maximum amount available. It ought clearly to be understood that no such limit has been fixed," and we are told that the Insurance Commissioners have not been able to come to any conclusion. "Nobody," it is added, "for one moment expects that under a State scheme a great profession should be asked to work at an unremunerative rate of pay. Indeed, in the interest of everybody concerned it is most desirable that the doctors should be induced to give ungrudging service. The bulk of the money for medical benefit will be found by the approved societies. Is it not obviously in the interest of these societies that they should have the cordial co-operation of the doctors, so that attempts at malingering may be put down, and that sick members should be cured as speedily as possible? Poorly paid doctors would almost certainly mean unnecessarily heavy demands upon the sick funds." The choice which is said to lie before the general practitioner is, "Will he confer—not with the friendly societies, but with the Commissioners—or will he blindly pursue his demand for an amending Act?" We are not aware that

it has been shown that general practitioners demand an amending Act. What the report presented by the Council to the Association recommends is that the Council should be instructed to press upon the Government and the Commissioners the further conditions necessary for securing the requirements of the profession, and to notify to the Commissioners that no negotiations will be entered into with any Insurance Committee until the Representative Body is satisfied that the requirements of the profession are conceded. One of these, and not the least important, concerns the question of remuneration, and the Treasury, having assumed the sum of 6s. a year for each insured person to be sufficient—an assumption which must influence, if not wholly determine, the attitude of the friendly societies and county councils to this financial question—may well be asked through its titular head to give these bodies a lead by indicating, as may well be done without any loss of credit, that a closer examination of the circumstances has shown that a larger provision must be made if an adequate service is to be provided. The letter sent by the Insurance Commissioners on February 7th, in reply to an inquiry from the British Medical Association (SUPPLEMENT, p. 162), does not advance the matter.

#### SECONDARY X RAYS AND X-RAY BURNS.

No part of Sir James Mackenzie Davidson's lecture at the Royal Institution on February 2nd was of greater importance than his demonstration of the secondary *x* rays which proceed from the glass of an *x*-ray tube. These secondary rays have been the subject of investigation by physicists for years past, and it is quite possible that they are of the same nature as the secondary rays generated by the impact of primary rays upon solid matter, to which Barkla and Sadler have drawn attention. Fifteen years ago Professor Silvanus Thompson gave the name of "paracathodic rays" to the rays which followed from the reflection of the cathode ray stream and its impingement upon the glass, although at that time Professor Thompson affirmed that the cathode rays produced no *x* rays upon this second impact. But Sir James Davidson seems to have been the first to recognize the physiological importance of this secondary radiation. He believes that these secondary rays given off from the surface of the glass are mainly responsible for the dire *x*-ray burns in operators. His attention was called to the matter upon finding that the area of dermatitic trouble in his own hands ended sharply at a line corresponding to the coat cuff, for of course cloth is quite transparent to the primary *x* rays, and in his own case the adjacent parts of the skin beneath the sleeve had been equally exposed with the uncovered hand itself. The fact seemed to suggest that an agent was at work, less evidently powerful than the main *x*-ray stream, but more insidious and indeed likely to be more vitally injurious because these secondary rays are more readily absorbed than the primary ones by the skin. Sir James excellently demonstrated the existence of these rays by suspending opposite the anode of the tube from which the primary rays emerge a mass of lead through which no primary rays could penetrate; nevertheless, within the eclipsed area were shadows caused by other rays, and these rays could be traced to points of emergence on the glass of the tube. An electroscopic test proved that in the case of a "high" tube, if the action of the primary rays were taken as one, the action of the secondary rays would be one-half, and that in the case of a "low" tube, the primary again being taken as one, the secondary were represented by one-seventh. As a confirmation of the physiological action of these rays, he mentioned the fact observed by Freund, that a tube so high as to give no fluorescence on the screen would cause epilation, and that with a tube having the electric current passed in the reverse direction, so as to produce only very weak primary rays, similar results were obtained. Sir James suggested

the construction of a tube which would make it possible to employ for therapeutic purposes these secondary rays alone. He added that it was only in the course of the preparation of his lecture that the physiological importance of these rays suggested itself to him. If these are actually the rays which do the damage, the belated discovery would only be comparable with that extraordinary accident by which the *x* rays themselves remained undiscovered for many years after the Crookes's tube was an accomplished fact.

#### HOME SCIENCE.

SANITARIANS have for years been grappling with the problem of the waste of infant life, which is all the more lamentable since it is largely due to causes that it is in our power to remove or counteract. A solution of the problem is more and more imperatively called for in proportion as the birth-rate tends to decrease. There are signs that the national conscience is becoming awakened to the blot on our civilization made by the blood of the countless victims to the ignorance of mothers, not all by any means belonging to the poorer and less educated, which is the Moloch of modern child life. Conspicuous among these signs is the recent movement for the education of women in home science, which has taken form and substance in the special school for that purpose attached to King's College. The movement owes much of its success to the active interest in it taken by Her Majesty the Queen. The "school," as we have called it, is part of the Women's Department of King's College. It is in organic relation with the London University. Besides preparation for degrees in the Faculties of Arts and Science, the department provides courses in Home Science and Economics for the King's College Certificate and the King's College Diploma. In May, 1911, some £60,000 had been privately subscribed for the furtherance of the movement for higher education in home science. An anonymous donor gave £20,000 to found an institution to be called Queen Mary's Hostel. Lord Anglesey gave an equal sum for the building and equipment of laboratories. A sum of £10,000 for the endowment of professorships and lectureships on chemistry, hygiene, and physiology was also subscribed. The origin of the movement was the desire to diffuse sound knowledge of the laws governing health, sanitation, and household economy, and especially to lessen the great loss of infant life by preventable disease. As the promoters pointed out, "the object is to foster a sounder knowledge of the laws which govern health, sanitation, and household economy. The moral and physical welfare of our country depends primarily on the training and healthy upbringing of its children. This is the special work which Nature and custom has assigned to women, and it is in directing attention to the type of education provided for girls that the true remedy lies. By ensuring that in future every girl's education shall include some knowledge of the science which affects her home problems and some practice of the domestic arts, the whole standard of home life would be raised, and trained experience substituted for instinct and tradition, which have hitherto been the chief guides for mothers." For the effective working of the scheme it was estimated that £100,000 was required. A Trust Fund Committee was formed to receive contributions. The committee was composed as follows: Lord Anglesey (chairman), Sir William Anson, M.P., Mrs. Asquith, Mr. Balfour, Lord Justice Buckley (honorary treasurer), Lady Esher, Lady Meyer, Sir Arthur Rücker, F.R.S., and Lady Rücker, and Dr. John Atkins (honorary secretary). It is now announced that the whole sum has been provided. Mention has already been made of the gifts of Lord Anglesey and the anonymous benefactor who provided the money needed for the foundation of Queen Mary's Hostel. Among the other contributors are Mrs. Wharrie, who gave a sum of



£20,000 to provide for the teaching of chemistry in memory of her father, the late Sir Henry Harben; the remaining £30,000 required was supplied by another donor. In addition to these donations mention should be made of the following: "Anonymous," £5,000; Mr. Almeric Paget, M.P., and Mrs. Almeric Paget, £1,000 each; the Duke of Devonshire, the Duke of Westminster, Lord Plymouth, Lady Wantage, and Mr. Otto Beit, £500 each; Lady Salisbury, Lady Mond, and Messrs. Rothschild and Son, £250 each; Lord Scarborough, Mrs. Alfred Morrison, and Mr. R. Nevison, £200 each; the Hon. W. F. D. Smith, Mr. Alfred Nathan, and "Anonymous," £100 each. The fund will be administered in accordance with the terms of the trust deed by an executive committee composed of representatives of the subscribers and of King's College for Women, including Lady Meyer and Lady Rücker, who were the pioneers of the scheme. Negotiations are now proceeding respecting a site for the hostel and for the new buildings of King's College for Women, in which will be incorporated the laboratories for the home science department. Every member of the medical profession and every patriotic citizen will heartily wish success to a scheme which strikes at one of the roots of the national decay, such deplorable evidence of which confronts us throughout the land.

#### THE CONSTITUTION OF PROTOPLASM.

THAT living protoplasm is a colloidal solution of the nature of an emulsion is the idea put forward a short time ago by Lepeschkin<sup>1</sup> in a preliminary paper on the structure of protoplasm. Under certain conditions this emulsion may become transformed into gelatinous foam with fluid honey-comb-like walls. Further, the colloidal parts, in which Brownian movement is exhibited, probably consist of a great variety of heterogeneous compounds. Owing to the slow movement of the colloid material chemical change in any part is not distributed immediately but tends to cause changes in the protoplasm at that particular part. These changes are evidenced by movements such as contraction of the cell or by the separation of special substances. These movements, etc., accelerate the motion of the plasma, and in this way the effect of the stimulus is eventually distributed to all parts. In addition to the cytoplasm the nucleus and other cell structures are believed to be of a similar colloidal nature. Lepeschkin maintains that all phenomena exhibited by protoplasm may be interpreted in terms of this "living plasma" theory, but it is apparent that much fuller experimental demonstration is necessary before such general conclusions can be accepted.

#### EDUCATION IN MIDWIFERY IN AMERICA.

In a paper which appears in the *Journal of the American Medical Association* of January 6th, Professor Whitridge Williams of John Hopkins University gives an account of the results of an inquiry made by him with regard to the teaching of obstetrics in the United States. A schedule comprising some fifty questions was sent to the professors in the 120 medical schools giving a full four-year course. Replies were received from 43; thirty-one of these were from among the sixty-one schools which are designated as "acceptable" by the Council on Medical Education of the American Medical Association, and 11 from the 59 non-acceptable schools, not including one from Canada. The replies, says Dr. Whitridge Williams, clearly demonstrate that most of the medical schools included in his report are inadequately equipped for their work, and are each year turning loose on the community hundreds of young men whom they have failed to prepare properly for the practice of obstetrics, and whose lack of training is responsible for unnecessary deaths of many women and infants, not to speak of a much larger number more or

less permanently injured by improper treatment or lack of treatment. He sums up his conclusions as follows: (1) Generally speaking, medical schools are inadequately equipped for teaching obstetrics properly, only one having an ideal clinic. (2) Many of the professors are poorly prepared for their duties, and have little conception of the obligations of a professorship. Some admit that they are not competent to perform the major obstetric operations, and consequently can be expected to do little more than train men-midwives. (3) Many of them admit that their students are not prepared to practise obstetrics on graduation, nor do they learn to do so later. (4) One-half of the answers state that ordinary practitioners lose proportionately as many women from puerperal infection as do midwives, and over three-quarters that more deaths occur each year from operations improperly performed by practitioners than from infection in the hands of midwives. It is clear that reforms are urgently needed, and Dr. Whitridge Williams suggests the following as the most important: (1) Reduction in the number of medical schools, with adequate facilities for those surviving and higher acquirements for the admission of students. (2) Insistence in university medical schools that the head of the department be a real professor whose prime object is the care of hospital patients, the proper training of assistants and students, and the advancement of knowledge, rather than to be a prosperous practitioner. (3) Recognition by medical faculties and hospitals that obstetrics is one of the fundamental branches of medicine, and that the obstetrician should not be merely a man-midwife but a scientifically trained man with a broad grasp of the subject. (4) Education of the general practitioner to realize that he is competent only to conduct normal cases of labour, and that major obstetrics is major surgery and should be undertaken only by specially trained men in control of abundant hospital facilities. (5) The requirement by State Examining Boards that every applicant for licence to practise shall submit a statement certifying that he has seen delivered and has personally examined under appropriate clinical conditions at least ten women. (6) Education of the laity—that poorly trained doctors are dangerous, that most of the ills of women result from poor obstetrics, and that poor women in fairly well conducted free hospitals usually receive better care than well-to-do women in their own homes; that the remedy lies in their hands, and that competent obstetricians will be forthcoming as soon as they are demanded. (7) Extension of obstetric charities—free hospitals and out-patient services for the poor, and proper semi-charity hospital accommodations for those in moderate circumstances. (8) Greater development of visiting obstetric nurses and of helpers trained to work under them. (9) Gradual abolition of midwives in large cities and their replacement by obstetric charities. If midwives are to be educated it should be done in a broad sense and not in a makeshift way. Even then disappointment will probably follow. It may be conjectured that the answers from the large number of schools which have not replied would, if given with equal frankness, be still less satisfactory. As to Dr. Whitridge Williams's suggested reforms, however, we take leave to doubt whether they are not too drastic. We particularly demur to his statement that all difficult cases should be relegated to the care of specialists. In this country—and the same remark must apply much more forcibly to America—it would be impossible, even if it were desirable, that all cases offering any difficulties should be taken out of the hands of the general practitioner. There are many men in general practice who have records of thousands of cases, including every kind of complication, and with a minimum mortality. We think that what Dr. Whitridge Williams's facts do conclusively show is that medical education in the department of obstetrics is, on the average, very inadequate in the United States. It is, we believe, admitted by all who know the facts

<sup>1</sup> *Bericht. Deutsch. Bot. Gesellsch.*, 1911, p. 181.

that the preliminary training is poor—a fact which may throw a sidelight on the recent controversy as to the relative advantages of our public schools and institutions of the same kind in the United States. Even in those universities which require a degree in arts as a condition of admission to the medical faculty, the general level of culture is low as compared with the general standard of our schools. Moreover, training in many of the medical schools is scanty and narrow, and they turn out men very imperfectly equipped for the battle against disease which it will be their business to wage. There are too many schools, and many of them are run on an almost purely commercial basis. It must be noted that Dr. Whitridge Williams's strictures apply mainly to schools that have a four years' course. From this it may be inferred that the state of the other schools whose aim in regard to output would seem to be quantity rather than quality, and whose methods may be compared to sausage-making in Chicago, would show still more lamentable results.

#### WOMEN'S IMPERIAL HEALTH ASSOCIATION.

THE annual meeting of the Women's Imperial Health Association was held at 7, Hanover Square, W., on January 31st. Amongst those present were: Muriel Viscountess Helmsley (President), Dr. H. J. F. Simson (Vice-Chairman), and Mr. E. M. Corner, F.R.C.S. (Honorary Treasurer). The Chairman, Dr. R. Murray Leslie, in proposing the adoption of the annual report, referred to the honour conferred on the association by H.R.H. Princess Louise, Duchess of Argyll, in becoming its Patron, and alluded to the warm interest Her Royal Highness had shown in the various departments of the work. It was announced that the association had become incorporated under the Companies (Consolidation) Act, 1908 (without profits). In reviewing the work of the year Dr. Murray Leslie referred to the very successful health fête and congress held last summer. The congress was the first of the kind ever held in this country. Health caravan tours were conducted—one in Essex, Norfolk, Hertfordshire, Leicestershire, Rutland, and Bedfordshire, and the other through Hampshire, Dorset, Devonshire, and Somerset. In the villages the arrival of the caravan with its accompanying cinematograph demonstrations was hailed with delight. The work of the London Parks Caravan was well known to habitués of the parks at Battersea, Hampstead, Parliament Hill, Victoria Park, Wormwood Scrubbs, Wandsworth, Streatham, Clapham, Tooting, and Peckham Rye. Reference was made to the work done by the association in regard to the preservation of teeth of school children. In connexion with this matter it may be mentioned that the association offers prizes for the best-kept mouths, and it has been mainly instrumental in founding the British Dentists' Hospital. A model School for Mothers has been established in Lambeth. It has been proposed that the president should visit India next winter in response to representations pointing out the advantage of forming a branch of the association to promote hygiene amongst the women of that country. During the year 200 health lectures had been delivered under the auspices of the association, most of them illustrated by lantern slides and cinematograph displays, while 163,000 health leaflets and pamphlets had been distributed. A Juvenile Health League of nearly 1,000 children has been established in Romford in connexion with this association. The treasurer's report was most satisfactory; it was stated that a considerable sum was added to the reserve fund.

#### A PSYCHOLOGICAL COMEDY.

MR. SUTRO's new play at the Garrick Theatre is a psychological study, touched with a light hand, of a mischievous type which is perhaps commoner than would seem to be

generally supposed. At any rate, the woman—the character is generally a woman—who does evil out of a spirit of impish perversity is a type very well known to doctors, and not peculiar to any one class of society. In a lower stratum it generally goes the way of petty criminality, in a higher it saves appearances with greater or less success, at any rate for a time, but commonly does more harm, spoiling men's lives and wrecking other women's happiness. In this play the wiles of the imp are directed against a hard-working altruistic pathologist, who, on the appeal of his wife, and encouraged by the enthusiasm of his fellow-workers, determines at last to try on a child a therapeutic serum for cerebro-spinal meningitis, which for years he has been perfecting. Of the *Fire-screen* who gives the title to the play we need say nothing but that the imp is caught in her own toils—but only for a time. She extricates herself with appropriate impudence. The first scene gives a judiciously slight glimpse into the pathologist's laboratory, where every detail has been carefully studied, and a good idea is given of the austere precision and biological cleanliness of such places. The play is a comedy full of bright sayings, with several strong scenes, and admirably acted, so that the first-night audience went away amused, well pleased, and interested.

#### PRESENTATION TO DR. LATHAM OF CAMBRIDGE.

It is proposed that a presentation of a suitable nature be made to Dr. Latham by the medical men of the district on his retirement from active work. He has for many years held a leading position as Physician to Addenbrooke's Hospital, as Downing Professor of Medicine, and as a consultant for a very wide area. His generosity in entertaining the members of the Cambridge and Huntingdon Branch of the British Medical Association and of the Cambridge Medical Society has ever been highly appreciated, and it is thought that the members of these two bodies would desire to express not only their personal appreciation, but also wish to ask him to accept some token expressive of the great services he has rendered to them and to their patients. It is calculated that if the members contribute a sum not exceeding 10s. each, a handsome amount will be available for the purpose. Further, it is hoped that an opportunity will be given to convene a meeting of subscribers to show the regard in which his fellow practitioners hold him. In case other medical friends, or old pupils of Dr. Latham, to whom no intimation of the proposal has been sent, desire to contribute, their subscriptions will gladly be received by one of the Honorary Secretaries, J. Alden Wright, M.D., Honorary Secretary Cambridge Medical Society, or H. Buckley Roderick, M.D., Honorary Secretary Cambridge and Huntingdon Branch British Medical Association, 19, Trumpington Street, Cambridge.

SIR GEORGE HARE PHILIPSON, President of the Newcastle College of Medicine, has been appointed by the Senate Vice-Chancellor of the Durham University.

THE officers of the Sections of Neurology and Psychological Medicine of the annual meeting of the British Medical Association at Liverpool in July next have arranged that the chief topics for discussion shall be the neuroses and psychoses of the climacteric, their prognosis and treatment, to be opened by Dr. Percy Smith, Dr. C. J. Macalister, and Dr. T. B. Grimsdale, from the standpoints of the psychiatrist, the general physician, and the gynaecologist; and the diagnosis and treatment of compression paraplegia, to be introduced by Dr. Ernest Reynolds and Sir Victor Horsley.

THE twenty-ninth annual general meeting of the Medical Sickness and Accident Society will be held at the house of the Medical Society of London, 11, Chandos Street, W., on Thursday, May 9th, at 4.30 p.m.