

the Burmese Expedition in 1886-87 (medal and clasp). He was gazetted lieutenant-colonel in 1900 and for some time was professor of midwifery at Calcutta Medical College and also obstetric physician and surgeon at the Elen Hospital, Calcutta.

ARMY MEDICAL SERVICE EXAMINATIONS.

An examination of candidates for not less than 30 commissions in the Royal Army Medical Corps will be held on July 29th and following days. Applications to compete should be made to the Secretary, War Office, London, not later than July 20th, on which date the list will be closed. Candidates who are over the regulated limit of age at the date of the examination will be permitted to deduct from their actual age any period of service in the field after Oct. 1st, 1899, that they could reckon towards retired pay and gratuity, if such deduction will bring them within the age limit. The presence of candidates will be required in London from July 27th.

THE NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund held on April 14th, Inspector-General W. H. Lloyd, R.N., being in the chair, the sum of £55 was distributed among the several applicants.

Correspondence.

"Audi alteram partem."

THE RESEARCH DEFENCE SOCIETY.

To the Editor of THE LANCET.

SIR,—A society has been formed, with the name of the Research Defence Society, to make known the facts as to experiments on animals in this country; the immense importance to the welfare of mankind of such experiments; and the great saving of human life and health directly attributable to them. The great advance that has been made during the last quarter of a century in our knowledge of the functions of the body and of the causes of disease would have been impossible without a combination of experiment and observation.

The use of antiseptics and the modern treatment of wounds is the direct outcome of the experiments of Pasteur and Lister. Pasteur's discovery of the microbial cause of puerperal fever has in itself enormously reduced the deaths of women in childbirth. The nature of tuberculosis is now known and its incidence has materially diminished. We owe the invention of diphtheria antitoxin entirely to experiments on animals.

The causes of plague, cholera, typhoid fever, Mediterranean fever, and sleeping sickness have been discovered solely by the experimental method. Not only have a large number of drugs been placed at our disposal but accurate knowledge has replaced the empirical use of many of those previously known. The evidence before the Royal Commission has shown that these experiments are conducted with proper care; the small amount of pain or discomfort inflicted is insignificant compared with the great gain to knowledge and the direct advantage to humanity.

While acknowledging in general the utility of the experimental method, efforts have been made by a section of the public to throw discredit on all experiments involving the use of animals. The Research Defence Society will therefore endeavour to make it clear that medical and other scientific men who employ these methods are not less humane than the rest of their countrymen who daily, though perhaps unconsciously, profit by them. The society proposes to give information to all inquirers, to publish *précis*, articles, and leaflets, to make arrangements for lectures, to send speakers, if required, to debates, and to assist all who desire to examine the arguments on behalf of experiments on animals. It hopes to establish branches in our chief cities and thus to be in touch with all parts of the kingdom, and to be at the service of municipal bodies, hospitals, and other public institutions.

The society was formed on Jan. 27th of the present year, and already numbers more than 800 members. It is not an association of men of science or of medical men alone; its membership has been drawn from all departments of public life and includes representatives of every class of educated Englishmen and Englishwomen, including many who have taken an active part in the prevention of cruelty to animals.

This fact is in itself a remarkable protest against the attacks which have been made on the researches that the society has been formed to defend.

The annual subscription is 5s. to cover working expenses but larger subscriptions or donations will be gladly received. The acting honorary treasurer, *pro tem.*, is Mr. J. Luard Pattisson, O.B. (of the Lister Institute), and an account in the society's name has been opened with Messrs. Coutts and Co., 440 Strand. The honorary secretary is Mr. Stephen Paget, 70 Harley-street, London, W., to whom all communications should be addressed.

I am, Sir, yours faithfully,

CROMER,
President.

* * We have the pleasure to support Lord Cromer's arguments in a leading article. We append an alphabetical list of the Vice-Presidents which sufficiently shows the powerful and many-sided support which the movement has already received.—ED. L.

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The Right Hon. Sir ALFRED WILLS.
The Rev. HENRY GEORGE WOODS, D.D. (Master of the Temple).

DEATHS DURING ANÆSTHESIA.

To the Editor of THE LANCET.

SIR,—In your issue of April 11th Mr. H. Bellamy Gardner criticises Dr. F. J. Waldo's article in THE LANCET of March 21st. He summarises the article in question in the following way:—(a) Dr. Waldo complains that the Registrar-General's statistics of deaths under anæsthetics are not of much use from a statistical point of view "because they do

not state the particular anæsthetic under which they occurred." (b) Dr. Waldo's own statistics are valueless because he does not specify the anæsthetic used and the total number of cases of administration. (c) Dr. Waldo argues in favour of a coroner's inquest in every case of death under anæsthesia "in order to improve the statistics."

Now, Sir, I venture to say Mr. Bellamy Gardner shows by that summary that he has failed to grasp the gist of Dr. Waldo's article, and I will deal with his points seriatim. (a) Dr. Waldo complains that the Registrar-General's statistics of deaths under anæsthetics are of little use from a statistical point of view "because they do not state the particular anæsthetic under which they occurred." The total deaths reported for England and Wales 1902-06 were 786, but the fact that the precise drug used was not reported in 204 cases surely justifies Dr. Waldo's general proposition that no statistics worthy the name exist with regard to anæsthetic mortality. Scientific progress, it may be added, depends mainly on increased accuracy, and such accuracy is certainly not a distinguishing feature of the study of anæsthesia. From a general survey of Dr. Waldo's paper it may be gathered that his objections to the Registrar-General's returns are based on the presence of a number of fallacies in addition to the particular one cited—namely, that of omission of the mention of the drug involved. Such fallacies include the anæsthetic deaths that occur in private practice, which as a rule never come either to official or to public notice. Can Mr. Bellamy Gardner contend that it is possible to arrive at any conclusion of scientific value unless we have full information of the fatalities that occur in the administration of anæsthetics in private practice? In the same way other no less essential data are lacking, such as, for example, the exact method of death, nature of operation, stage of anæsthesia at which death occurred, and "delayed" deaths due to the anæsthetic. Until statistics can be produced on a large scale, including these and other essential data, I venture to assert that the "science" of anæsthetics must be little more than mere guesswork at the balance of probabilities.

(b) Dr. Waldo's own statistics "are valueless because he does not specify the particular anæsthetic under which they occurred," and because he does not give the total number of administrations in the two large charitable institutions within his district whence the figures are drawn. As a matter of fact, Dr. Waldo points out in so many words that no sound conclusions can be drawn from these institutions, "which are fully abreast of, if not in advance of, the majority of the hospitals of the United Kingdom." In one of the two, he says, there is reason to suppose that many administrations are not noted at all. If this be so in two of the best-equipped and regulated hospitals in London what must happen in smaller institutions in the rest of the kingdom and from what precise field does Mr. Bellamy Gardner gather the evidence for the formation of his own opinion? He asks if Dr. Waldo is in ignorance of the work of the Anæsthetics Committee of 1900 which investigated some 25,920 deaths under anæsthesia. The very passage he quotes from their report bears out to the letter the general contention of Dr. Waldo that there are no statistics in existence on this particular subject of any scientific value. The passage quoted by Mr. Bellamy Gardner runs:—"From a careful study of the whole facts at their disposal the subcommittee feel that owing to (1) the large number of factors in the problem; and (2) the personal equation of the numerous recorders it is impossible to arrive at uniformly satisfactory statistics on the several points submitted to their consideration." In other words, the subcommittee emphasise the fact that no sound conclusions are possible from the facts at their disposal.

(c) Dr. Waldo "argues for a coroner's inquest in every case of death during general anæsthesia in order to improve the statistics." Mr. Bellamy Gardner ventures to think "that a poorer argument than the foregoing never was put forward upon a matter of importance." I fail to gather the existence of any such argument from a careful perusal of the original article. Mr. Bellamy Gardner may be somewhat reassured as to Dr. Waldo's wish to get beyond the dry and arid region of statistics if he reads carefully conclusions 5 and 6 of the article in question and considers all that is therein connoted; the conclusions are: "5. That with such imperfect data it is impossible to form any trustworthy conclusions as to the absolute ratio of fatalities to administrations, or to the relative proportion of deaths to

administrations in the case of particular anæsthetic drugs." "6. That it is highly desirable to arrive at satisfactory conclusions as to the precise facts of all deaths under anæsthesia both for the safety of the public and the furtherance of scientific knowledge."

Other points raised in Mr. Bellamy Gardner's letter I leave to be dealt with by those who have the necessary special knowledge and experience. Those to which I have adverted appear to be well within the intellectual province of the average medical man.—I am, Sir, yours faithfully,

Bryanston-street, W., April 13th, 1908.

DAVID WALSH.

ON THE TREATMENT OF SMALL-POX BY LARGE DOSES OF MERCURY WITH CHALK.

To the Editor of THE LANCET.

SIR,—Syphilis is an infectious fever; Dr. W. Moxon called it "a fever diluted by time." Of all the fevers small-pox most closely resembles syphilis, especially in its acute secondary form. The acuteness of secondary syphilis, I believe, can only be appreciated after one has seen that disease in India; the treatment here, in consequence, has to be correspondingly vigorous; five grains of mercury with chalk three times a day has very little immediate effect, but ten grains three times a day removes all obvious signs of the skin eruption in from three to six days. In fact, mercury appears to act towards syphilis as quinine does to malaria, a certain sufficient dosage being necessary to abate the disease, and until this dose has been reached very little immediate relief is given.

In view of the discovery of the spirochæta pallida the necessity of administering a certain quantity of mercury before the disease can be allayed is now readily appreciated. The striking resemblance between acute secondary syphilis and small-pox suggested the employment of mercury in the treatment of the latter complaint also. Experience with syphilis showed that 30 grains of mercury with chalk per day for seven consecutive days produced no diarrhoea or symptoms of poisoning but, on the contrary, gave such marked relief that I decided to employ the same dosage also for small-pox. The results have proved so very satisfactory that I have been tempted to describe them, although my conclusions are drawn from the observation of only eight cases. Of the eight cases three had been vaccinated and five had not. Seven were adult men and one was a boy aged 12 years. All were natives of Oudh.

The first case was that of a boy, aged 12 years; he was sent from a mission school on the first sign of the disease. His face, arms, and legs were thickly covered with typical small-pox papules, which were present also on his scalp and the palms of his feet and hands. On the face the papules were so closely situated as to be almost contiguous. No vaccination marks were present; the case would be described as a severe one. He was removed to the small-pox hospital (Lucknow) and given five grains of mercury with chalk three times a day for six days, then twice a day for the next four days, and once a day for the next three days. Sweet oil was used to soften the skin. The diet consisted of four pints of milk a day. The course of the disease turned out to be very mild, though from the first appearances it threatened to be very severe. The temperature never rose above 103° F. and the papules did not suppurate and break down. There was no diarrhoea or sign of mercurialism. On discharge, six weeks after admission, there were no scars, merely the usual pigmented patches seen in natives. The desquamation of the palms and soles was rather tedious. The remaining seven (six were sepoys and followers) were typical cases of small-pox, all were more than moderately severe, and all were seen very early. The treatment in all seven consisted of 10 grains of mercury with chalk three times a day for six days, then twice a day for four days, and once a day for four more days, 14 days in all. Sweet oil was used to soften the skin; no other medicine was given. The diet consisted of four pints of milk per day, and in addition four ounces of arrowroot and two of sugar when the temperature reached normal. There was never any sign of mercury poisoning and no diarrhoea. The mercury seemed to have a marked influence in lowering the temperature and in modifying the course and subsequent fate of the papules in that no active suppuration occurred and the disease was both cut short and simplified, leaving the