

injury, giving a ratio per 1000 of strength of 688.9 and 135.2 respectively. The daily average of patients was 799.8 and the ratio per 1000 of strength 34.8, as compared with a daily average of 645.8 and a ratio per 1000 of 32.1 for 1899. The number of persons invalided from the service was 695, a ratio of 29.2 per 1000 of force, classified as 586 invalided for disease and 109 for injury. During the year there were 211 deaths, the death-rate per 1000 of force being for disease 5.01 and for injury 3.87, or a grand total of 8.88 per 1000. The admissions to the sick list during the year included 1699 cases of epidemic catarrh, 983 of malarial diseases, 963 of wounds, 902 of diarrhoeal affections, 828 of rheumatic affections, 336 of dengue, 246 of alcoholism, 195 of dysentery, 175 of typhoid fever, 160 of measles, 132 of mumps, 128 of heat-stroke, 117 of pulmonary tuberculosis, 100 of organic heart disease, 99 of pneumonia, 40 of nephritis, 37 of rubella, 10 of small-pox, two of yellow fever, and one of bubonic plague. The returns of recruiting show that a total of 25,081 recruits were examined, of whom 9625, or 383.7 per 1000, were rejected for all causes, and 623, or 25.0 per 1000, were rejected for colour-blindness. A special appendix to the report, occupying 24 pages and drawn up by Dr. Presley M. Rixey, Medical Inspector, United States navy, is devoted to the case of the late President McKinley.

#### AFFAIRS IN SOUTH AFRICA.

The War Office return of the casualties in the Field Force in South Africa during the month of December, 1901, shows the total reduction of the military forces up to the end of that year through the war to have been 24,299, made up as follows: deaths in South Africa, 931 officers, 18,033 men; missing and prisoners, 442 officers and men; invalids sent home who have died, seven officers and 449 men; and invalids who have left the service as unfit, 4437. As regards deaths (exclusive of those who have died in captivity) described as killed in action or died from their wounds we find the numbers to be 630 officers and 6397=7027, as compared with 11,273 deaths from disease. The number of officers sent home as invalids amounts to 2664, and of men 61,666. Of these, a great majority have recovered and rejoined for duty; of the rest, 449 have died, 4437 have been discharged the service as unfit, and 862 are in hospital. As regards the purely military news it seems clear that De Wet had a strong force of excellent fighting material in his audacious and enterprising, as well as skilfully executed, attack on the British at Tweefontein. It was a disastrous attack as far as we were concerned and does not, we fear, say much for the alertness and foresight of the British force. The slanderous and unfounded charges against British officers and soldiers in the continental, and especially the German, press have naturally caused a good deal of indignation in this country.

#### DEATHS IN THE SERVICES.

Surgeon-Lieutenant-Colonel Henry Cramer Guinness, L.R.C.P., L.R.C.S. Irel., A.M.S. (retired), at his residence, Wellington Lodge, Cheltenham, on Jan. 2nd, in his sixty-fourth year. The deceased, who was the son of the late Dr. Arthur Guinness, took the qualifications of L.R.C.P. and L.R.C.S. Irel. in 1859. He entered the army as an assistant surgeon in 1859 and was promoted to the rank of surgeon in 1873, surgeon-major in 1875, and surgeon-lieutenant-colonel in 1879. The deceased officer retired from the army on half-pay in 1893.

Colonel Oswald Gillespie Wood, C.B., R.A.M.C., who is reported to have died on Jan. 3rd at Kroonstadt, where he was principal medical officer, was in his fifty-fifth year, and was appointed a lieutenant-colonel in the Royal Army Medical Corps in March, 1894, after about 20 years' previous army medical service. In 1882 he served with the first Egyptian expedition and was at Tel-el-Kebir; in 1889 he was senior medical officer with the British troops engaged in operations on the Nile; and in the present campaign he was for some time in charge of a general hospital before taking up the post which he last held. Colonel Wood's South African services have been mentioned in despatches and they obtained for him the C.B.

#### THE CHANGES IN OFFICERS' UNIFORM.

It seems an extraordinary thing that whenever an outcry rightly or wrongly is raised in this country in regard to the reform of the army, the War Office, or the Horse Guards authorities steps are taken, often without any apparent reason, to bring about, under a real or alleged idea of economy, some change of uniform or dress reform. There is no finality about anything and least of all about officers' uniform. The latest of the many regulations which have been issued on the

subject will affect officers of the Royal Army Medical Corps in common with those of all other branches of the service. That the ultimate result of the new orders will be one of economy may be true, but that its immediate effect is to put officers to much expense in the meantime cannot be doubted and we hope that ample time may be given to allow of the present uniform being worn out instead of having to be cast aside as obsolete or not up to date. We may add that the new Army Order just published regarding the service dress of the army, which is a long and elaborate production, seems to be sensible and good and to have been carefully drawn up.

Captain Ernest Kinloch Johnstone, M.D., L.R.C.S. & P. Edin., lately assistant-surgeon, has been promoted to major and surgeon and is serving with the United States Army in the Philippines. He is acting as chief surgeon of the 3rd Military District, Northern Luzon.

## Correspondence.

"Audi alteram partem."

### INERT VACCINE LYMPH.

To the Editors of THE LANCET.

SIRS,—I have read with interest the letters which have recently appeared in your pages on the subject of inert vaccine lymph. Opinions appear to be divided on the subject, some of your correspondents suggesting that every practitioner should publish the results of his vaccinations and revaccinations, giving the source of the vaccine lymph employed; others incline to the view that the State alone should manufacture and distribute the glycerinated pulp; and others, again, would like to see a committee of experts appointed by the State to supervise private establishments and to lay down the best methods of preparation and preservation of vaccine. I do not believe that the remedy is to be found in any of these proposals and I shall indicate what I consider is the remedy further on. To make use of the publicity afforded by the journals for the purpose of calling attention to certain marks of vaccine which have given good results or none at all would, I submit, be illegal. Moreover, a particular institution may conceivably supply an excellent vaccine at one time and a very inferior one at another. A monopoly of vaccine by the State would be like the monopoly of matches in France, where it is a saying: "They won't light, they are Government matches." A monopoly of vaccine, indeed, would be a much more serious matter than a monopoly of matches. There must be a method of manufacturing matches which is invariably successful, whereas there is nothing of the kind for the manufacture of vaccine. If a match will not light it is due to a defect in the process of manufacture or exposure to damp. In respect of vaccine the procedure may have been faultless, the lymph may not have been exposed to too high a temperature (heat being for vaccine what damp is for matches), yet the results may be negative. It follows that if the State undertook the exclusive manufacture of vaccine it is quite possible—indeed, it has actually happened—that for some considerable time the State may find itself in the position of being unable to furnish a trustworthy vaccine. So long as the field is left open to private institutions England will never, during such period, be left destitute of vaccine, since even public vaccinators can obtain a supply from institutions which, at that particular period, are in possession of an active vaccine. The French Academy of Medicine supplies lymph gratis to all practitioners who apply for the same, yet many prefer to obtain their lymph from private establishments on account of the failures following the use of the Academy lymph. If the State monopolised the manufacture of vaccine lymph it ought logically to monopolise the manufacture of all serums and even of all drugs. The State would become manufacturer of chemical products, druggist, herbalist; it would supply the retail chemists who would themselves become servants of the State.

There is no obvious reason why medical men should not in their turn become administrative officers and be constrained to take the opinion of their hierarchical superiors on the applicability of a particular remedy to a particular disease. Following in the steps of medicine and pharmacy, industry

and commerce as a whole would pass into the hands of the State, an alternative which certainly offers one solution of the social problem but which would leave individual initiative out in the cold. I should certainly prefer supervision by the State, but such supervision would require to be exercised by thoroughly competent experts—that is to say, medical men who prepare their own vaccine. In such case would these medical men *qua* manufacturers of vaccine not in all probability display a tendency to believe that their own methods are the best and that all other procedures are necessarily inferior to their own? Obviously this suggestion is impracticable. In all establishments, whether public or private, in spite of every possible precaution, there are times and seasons at which the vaccine product is inert or comparatively inactive, the reason of which is still unknown. There are periods, indeed, when this sterility affects whole countries. I am in communication with a large number of vaccine institutes throughout Europe and can speak with authority on this point. We may therefore take it as proved that at certain times this or that institute will produce only inert lymph. A lymph which was originally very active may become inert in a very short space of time, while other specimens will retain their activity unimpaired for an indefinite period. The accuracy of this observation can be testified to by all directors of vaccine institutions. There is a third fact—viz., that lymph too freely diluted with glycerine or water loses its virulence. We are confronted, therefore, with three causes of inert vaccine: (1) defective virulence *ab origine*; (2) spontaneous loss of virulence after a short time; and (3) loss of virulence as the result of too free dilution.

Now for the remedies. It is indispensable in the first place that directors of vaccine institutes should test their glycerinated lymph. This test may be applied on the rabbit, the calf, or the child. The only real test is that on the child, because a vaccine which takes very well in the animal may fail in the child. Since vaccine, when first gathered, always contains a large number of micro-organisms, possibly pathogenic, it must be allowed to stand for some time in order to allow of the destruction of the greater part of these organisms. Vaccine a month old and free from injurious organisms must be inoculated by means of incisions of sufficient length and well separated so that the vaccinal vesicles may run a separate course at the site of each incision. The evolution of the vesicle must be inspected daily and it is on the third or fourth day (not the eighth) that one can form an opinion as to the value of the vaccine. If we make an incision one centimetre in length the vesicles at the end of the third day should be present in such abundance as to look like a single vesicle with straight edges following the line of incision. If the margins are irregular or dentated the vaccine is not of the first quality. If along the incision there are only one, two, or three isolated vesicles which do not become confluent for a day or two the vaccine is not active enough for use. When vaccine remains in stock for several months it is the duty of the director to test it from time to time, eliminating on each occasion all vaccine which shows itself inactive. By following this procedure the institutes will furnish vaccinators only with active lymph which will invariably give satisfactory results—i.e., 100 per cent. for vaccinations and 80 per cent. at least for revaccinations.

Loss of activity as the result of too free dilution is the least important because it can be made a rule never to mix with the pulp more than the quantity of glycerine absolutely necessary to render it fluid and to allow of its introduction into tubes. Glycerinated pulp ought always to be thick, and in no case should the proportion be exceeded of four parts of glycerine to one of pulp gathered by the curette without forceps—that is to say, not already diluted with blood serum. If all vaccine institutes follow the method which I have just described they will never supply vaccinators with inert lymph, though they themselves may now and again find themselves in possession of inert lymph and they may even have a run of bad luck in this direction. What, then, is the remedy? There are several, but I will limit myself to one—viz., never vaccinate the calf with fresh lymph, but use vaccine which has been in stock for two, three, or four months, the perfect virulence whereof has been ascertained by previous tests. If, in spite of this precaution, the desired result is not obtained recourse should be had to an institute which is furnishing an active lymph, and a series of calves vaccinated with this lymph after having tried it on a child. No attempt should be made to start the series with lymph of

one's own preparation until one is sure that the bad period is at an end. The obligation to have occasional recourse to another institute is a strong argument against the proposed State monopoly, because should the State vaccine become inert it would perforce have to find an institute in a position to supply it with active lymph to start afresh with, and if the institutes in Europe were restricted to a few State institutes it might very well happen that they were all suffering from the same defect at the same time.

What would seem particularly desirable is the establishment of a closer relationship between all vaccine institutes in Europe, or even of the whole world, so that they may come to each other's assistance. I have endeavoured to establish some such intercommunication and I am pleased to say that my appeal has been favourably received by a certain number of institutes in England, Germany, Austria, Russia, Spain, Portugal, Switzerland, and France. I hope ultimately to succeed in forming a sort of syndicate of vaccine institutes. When I have attained that object the problem will have found its solution and in the event of a lack of virulence the institutes will know where to put their hands on the supply of active pulp or lymph which they require.

I am, Sirs, yours faithfully,

EDMOND CHAUMIER, M.D. Paris.

## FIRST AID FOR PRIMARY HÆMORRHAGE: THE WRONG TEACHING GIVEN TO AMBULANCE CLASSES.

*To the Editors of THE LANCET.*

SIRS,—I read Mr. W. G. Spencer's letter on the wrong teaching given to ambulance classes in THE LANCET of Jan. 4th with surprise. He seems to take it for granted that because a person has gone through one course of lectures on "First Aid" and treats a patient wrongly that the lecturer must be at fault, because the said person *says* he was taught to do what he did. I am perfectly aware that a deal of harm is done by people who attend one course of lectures and no more and, maybe years after, when suddenly called upon to stop hæmorrhage and having only a hazy recollection of what they ought to do, clap a tourniquet on somewhere or other, and cover their retreat by saying, "That is what I was taught to do." But when you come to a trained body of men, such as the St. John Ambulance Brigades, who are constantly rendering first aid under the *immediate supervision* of an honorary surgeon of the brigade, my experience is totally different. I have never seen a case of primary hæmorrhage that was not treated in the same way as I should have done myself—viz.: (1) by digital pressure in the wound; and (2) by a hard pad and bandage (if available) over the wound. If a member of the Workshop Division were to tie a handkerchief "on the side nearest the heart," instead of *directly over* a ruptured varicose vein, I should advise him to go home, burn all his certificates, and hand in his resignation.

I am, Sirs, yours faithfully,

A. J. HELM MONTAGUE,

Honorary Surgeon and Superintendent, Workshop Division,  
Jan. 6th, 1902. St. John Ambulance Brigade.

*To the Editors of THE LANCET.*

SIRS,—In answer to Mr. W. G. Spencer's letter on the subject of "First Aid and Primary Hæmorrhage: the Wrong Teaching given to Ambulance Classes," I am sorry that he has made use of a wrong statement in the latter part of his heading, because in the commencement of his second paragraph, he says, "It would 'appear' that instruction is given in such classes which is not informed by the actual requirements of practical surgery." By saying this he goes against the positive statement given in his heading.

Surely, Sirs, Mr. Spencer cannot for one single moment believe that any qualified medical man (who alone are entitled to lecture and examine for the St. John Ambulance Association) would be foolish and ignorant enough to leave out in his lecture the first general principle of the arrest of hæmorrhage? If so, he can have very little faith in his own cloth. If Mr. Spencer will look at the "Text-book on First Aid" which is supplied by the St. John Ambulance Association, and on which lecturers have to give instruction, he will find clearly printed and in large type what he says is not taught, and it is in such language that the most ignorant person who is able to read can easily understand.