

in acute rheumatism the micrococci, which are subendothelial, are rapidly destroyed, but the local lesions, the result of their virulence, do not disappear so readily. The other difficulty is that of understanding malignant rheumatic endocarditis. When the diplococcus has sufficient virulence to destroy the surface endothelium of the valve and to live vigorously and persistently in the vegetation, then a simple becomes a malignant rheumatic endocarditis. Here, again, experiment and histological investigation enable one to link up the chain. We also showed that a deposit of fibrin, so often described in text-books, is no essential feature of a simple vegetation, which is at first entirely subendothelial.

I should like to read some account from the opponents of the view that rheumatic fever is due to the diplococcus of careful histological investigations such as Dr. Coombs is making. It is by these slow and prolonged studies that one learns very instructive points. For example, from a case of fatal chorea I was once able to get a simple rheumatic endocarditis in the early active stage, and with Dr. Paine was able to demonstrate the micrococci in great numbers under the endothelium of the mitral valve, and also in great quantities in some minute blood capillaries at the base of the valve. Such a chance will probably not occur twice in a research lifetime, and is a striking support to Dr. Coombs's contention that the infection reaches the valves by the coronary circulation. Naturally I cannot admit that there is a single weak link in the chain of proof that the diplococcus is *a*, and probably *the*, cause of acute rheumatism. As to the specific nature of the diplococcus that is a different matter, but Dr. Coombs's investigations appear to me to strengthen the evidence in favour of there being some specific reaction produced in the tissues by this micro-organism.

I am, Sir, yours faithfully,

Harley-place, W., May 25th, 1909.

F. J. POYNTON.

"RADIUM APPLICATORS" IN PRACTICE.

To the Editor of THE LANCET.

SIR,—With reference to the idea that in order to gain the full effect of a radium salt it is necessary to spread it over the surface of an applicator in a mixture of varnish, as is described to be the present mode of use at the Paris Radium Institute, is it absolutely certain that such a procedure is necessary—or even advantageous—in the practical use of a radium salt for varied purposes?

In the treatment of skin affections where the affected area is extensive and little penetration is required, a rectangular surface has advantages over a circular surface, as the applications can be made without overlapping or leaving intervening spaces. This was pointed out some time ago by the late Mr. Hartigan. But there are many cases where the corners of a rectangular applicator would be inconvenient, and at the present price of radium there will be few who will be able to afford radium applicators of varied form. For those cases where the affected area is extensive and little penetration is required, I have found that aluminium foil (known in the trade as "0.004 to 0.008") is useful. The foil can be cut to the required shape, and if heated to dull redness and allowed to cool slowly, can be moulded to the surface of the part which is being treated. The ordinary radium box applied to this foil renders the foil radio-active throughout its extent, and the same effect is produced as by spreading the radium. Again, where greater penetration is required, it is surely reasonable to expect greater power of penetration from a focus where the radium salt is concentrated than when the salt is spread over a surface, and, as it were, diluted. The power of penetration will diminish in ratio to the extent to which the radium salt is spread. This is shown by the fluorescent screen, on the proof-plane, and by the electroscope.

It appears to me, therefore, that at the present time, and in the present scarcity of radium, the first-devised form of radium box still has its advantages. It can be used with aluminium foil in the manner I have described. It can be placed in a test-tube and thus applied in hollows and cavities. Where there are nodules of malignant growth to be seen, such as those appearing in a scar after operation, the rays from a focus of radium can be brought to bear upon each nodule. And where the disease is more deeply seated, as in the substance of the breast, by simply applying the box of

radium in different situations upon the breast surface for short periods of, say, 10 to 15 minutes that action of deeply penetrating rays can be obtained which has been dignified by the special designation of "cross-fire."

I am, Sir, yours faithfully,

2 Ashley-place, S.W., May 22nd, 1909. R. BROWNE-CARTHEW.

THE BUDGET AND MEDICAL PRACTITIONERS.

To the Editor of THE LANCET.

SIR,—I presume that Dr. Clement Dukes is not a motorist. The attitude he adopts in the letter which you publish in to-day's issue is calculated to considerably injure those of our profession who do their work by car instead of by horse traction. The Chancellor of the Exchequer has realised that the motoring doctor deserved lighter treatment than the wealthy tourist, but Dr. Dukes would scorn such consideration.

Let us examine his alternative proposals: 1. That the honorary staffs of hospitals should receive fees for attendance at inquests. This in a town of 210,000 inhabitants would amount to about £5 divided up between ten men out of the 120 practising here, of whom 17 at least are motorists and who will have to contribute at least an extra £5 apiece per annum to the exchequer through the petrol tax, a total of £85 as compared with £5 under Dr. Dukes's proposal. 2. The amended laws of death certification recommended by Dr. Dukes would entail additional work which would be probably barely covered by the fee. 3. As regards the proposed remuneration of resident medical officers for attendance at inquests, having held in the past such appointments for two years, I may venture to say that the forensic experience thus gained early in professional life more than repays one for the trouble.

Finally, may I ask if Dr. Dukes realises that if automobilism advances as it has been doing up to the introduction of this Budget, in eight or ten years' time half the profession will be able to afford cars, to the great benefit of themselves and their patients.

I am, Sir, yours faithfully,

Southsea, May 22nd, 1909.

M. ASTON KEY.

A FATAL CASE OF POISONING BY VERONAL.

To the Editor of THE LANCET.

SIR,—The following notes may interest your readers, as they refer to the fatal case of veronal poisoning to which you alluded in your issue of May 22nd.

A man, aged 40 years, who had for some weeks been in the habit of taking veronal for sleeplessness, in doses varying between 10 and 30 grains, being probably desirous of sleeping through the whole of a certain day, about the midnight previously took 10 half-gramme tablets and two cachets of 12 grains each, a total of 99 grains. Half an hour afterwards he experienced severe abdominal pain, but in an hour he was fast asleep. I first saw him 17 hours after he had taken the drug. He was then quite comatose; pinching, pressure on the supra-orbital nerve, &c., failed to produce any reaction. The pulse, full and bounding, was 120. Temperature 99° F. in axilla. Respiration 24. Pupils moderately dilated and reacting to light, but no conjunctival reflex. Skin hot and dry. He had passed a large quantity of urine into the bed. A small quantity obtained by catheter and tested showed a faint trace of albumin, specific gravity 1020, rather high-coloured, but not of the reddish tinge associated with hæmatoporphyria. From this time onward to the time of his death the pulse gradually quickened to 150 and was easily counted. The temperature taken again 24 hours after the drug had been taken, rose to 101° in the axilla, and a few hours before death was 104° in the axilla. The respiratory rate quickened to 32, 24 hours from onset, and then remained almost constant until a few hours before death, when it rose, coincidentally with the onset of pneumonic congestion, to 44. 20 hours after taking the dose a thin, frothy, light-yellow, sweetish-smelling discharge began to exude from the mouth and continued profusely until death, necessitating constant clearing of the mouth and pharynx. The urine was passed at intervals in considerable quantity. That obtained by