the latter made him worse. The general health became seriously impaired. At the end of three months he was sent away for change of air and came under my care. I applied a large blister on his back on the left side of the upper dorsal vertebræ, and subsequently kept the raw surface open by means of savin ointment. The effect was most gratifying. Within a few days pain became less and eventually ceased. Six months later the patient wrote saying he was in excellent general health and had a useful arm. In this case, whatever else may have happened, I am certain there was severe neuritis of the brachial plexus.

2. A similar case. Patient aged 57. He fell twice from his bicycle, injuring his left shoulder each time. As in the former case, œdema of the forearm and a rheumatoid condition of the hand set in. Pain became so intense the patient was at times delirious. At the end of about three months he also was sent away from home and I took charge of him. I again resorted to a large blister as before. The result was equally gratifying for a time, but subsequently the head of the humerus became sarcomatous.

In each case a celebrated consultant was called in before I saw the patient, but his suggestions led to no relief of suffering. I mention this in no spirit of vaingloriousness, but merely to emphasise the fact that the blister succeeded when all else had failed. It is generally acknowledged that pain means tension, and in my opinion a blister relieves tension.

Dr. Latham refrains from any suggestion as to why joints become rheumatoid when their nerve-supply is impaired, and makes no mention of germs. I feel strongly that these cannot be put aside. Whatever else may be going on in a swollen joint there is beyond all question a local accumulation of toxins. Germs are a source of extremely irritating toxins, and as no living man is ever germ-free, toxins are being constantly produced in his system. There are many who believe that the application of a blister is followed by an increased leucocytosis and production of antibodies. I personally believe that both micro-organisms and toxins are freely extruded through the raw surface produced by a blister, especially if savin ointment is applied once or twice daily as long as necessary.

I am, Sir, yours faithfully,

Bournemouth, April 3rd, 1914.

W. J. MIDELTON.

CHANGES IN THE BLOOD IN SURGICAL SHOCK.

To the Editor of THE LANCET.

SIR,—I think one is justified in expressing considerable surprise at the nature of the admission made by Mr. A. Rendle Short as to his CO₂ estimations. In his original article he describes his technique in these words: "A bandage was tied round the patient's arm, and the skin sterilised with iodine." He now states that only in certain cases was such a bandage applied. What is to be thought of physiological observations in which it is regarded as immaterial whether a profoundly disturbing factor is introduced or not? Mr. Short passes the matter over lightly by suggesting that as the bandage was only applied for about a minute, the blood could not have received much additional CO₂. May I refer him to a paper published in THE LANCET of June 19th, 1909, p. 1741, in which Dr. A. P. Beddard, Dr. M. S. Pembrey, and Dr. E. I. Spriggs record the observation that by bandaging the arm for two minutes they could raise the CO₂ content of the venous blood from one-fifth up to the normal value. As Mr. Short describes the sterilisation of the arm with iodine after the application of the bandage, is he really certain that these operations occupied only one minute?

It may here be remarked that, apart altogether from the matter of bandaging, the CO₂ of the venous blood is a very variable factor, and differs widely in different regions. There are other disturbing factors, so that at best merely a rough estimate is possible from these examinations as to the CO₂ content of the arterial blood. A more accurate method is by analysis of the alveolar air, an impossible proceeding, of course, in Mr. Short's cases. Hürter,¹ however, has shown that blood may be easily and safely taken from the radial artery.

The real object of my note was not to uphold the acapnia theory as opposed to the theory of Crile, but merely to point out a source of fallacy in Mr. Short's protocols. As to the general question, there is a tendency to lose sight of the fact that there are different kinds of shock, and the causes are correspondingly diverse. If any one should doubt, for instance, that shock is associated (to put it at the lowest) with acapnia, let him maintain forced breathing for a sufficient number of minutes, and then after recovering his senses he will remain a sceptic no longer. In surgical shock the degree of acapnia present may be roughly guessed by observing the antecedent pulmonary ventilation. Now in the experiments of Janeway and Ewing, to which Mr. Short refers, and which, by the way, were first published in the *Biochemical Journal* for April, 1913, shock resulted just the same when the CO₂ content of the blood was artificially maintained. Seelig² also found that the injection of CO₂ into the veins did not prevent shock artificially induced in dogs. The contention of Janeway and Ewing is that the shock in artificial hyperrespiration was due to inhibition of the venous return to the heart. But here let it be noted that the intra-pulmonary air pressure induced in these experiments was enormous, sufficient practically to empty the thoracic veins, and therefore by no means comparable to the natural hyperrespiration which takes place in the human subject. Accordingly, the relationship of acapnia to shock in man is not disposed of in such experiments.

The adoption of "spinal" shock by Mr. Short as supplying the clue to surgical shock is to my mind rather unfortunate. Both Yandell Henderson and Janeway and Ewing found the bulbar centres perfectly active, and so the latter authors fall back on "local peripheral causes."

I am, Sir, yours faithfully,

A. G. AULD.

Henrietta-street, Cavendish-square, W., April 4th, 1914.

THE LATE COLONEL J. O. WILL, R.A.M.C.

To the Editor of THE LANCET.

SIR,—We venture to appeal to the charity of those members of the medical profession who are in a position to render help to the widow and family of the late Surgeon-Lieutenant-Colonel J. O. Will, R.A.M.C. The deceased leaves an honourable record of work done in many parts of the Empire. Among many who personally tendered to him their thanks for valued services were the late General Wauchope in South Africa and Sir F. M. Hodgson in St. Vincent after the disastrous eruption in that island.

Early in this year Dr. Will, having retired from the Army, purchased a practice in the village of Dunton Green, near Sevenoaks. After only seven

¹ Archiv für Klinische Medizin, 1912, cviii., 1.

² American Journal of Medical Sciences, August, 1913.

weeks he fell a victim to pneumonia. The evening before his death his eighth child was born, the mother's mental and bodily suffering being increased by a perilous obstetric complication. The widow is left with a family of eight to bring up, the eldest being a girl of 16. A yearly allowance to be made by the War Office represents practically her entire income; under the circumstances no great sum can be expected from the sale of the practice, which was a small one. Her only relatives are not in a position to afford substantial aid; and we feel that many medical men would like to do what is in their power to help.

The Rev. E. Mort, vicar of Dunton Green, has opened a fund, and any contributions we may receive as a result of this appeal will be added to it and thankfully acknowledged.

We are, Sir, yours faithfully,

JAMES E. BLOMFIELD, M.A., M.D. Oxon.

R. J. DICK, M.D. Edin.

GERALD SICHEL, F.R.C.S. Eng.

Sevenoaks, April 14th, 1914.

THE SCHOOL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—It may not have come to the knowledge of some school medical inspectors or assistant school medical officers that an organisation has been formed within the Society of Medical Officers of Health with the object of safeguarding and forwarding their general interests.

On Saturday, May 2nd, at 2 P.M., it is proposed to hold a meeting at 1, Upper Montague-street, Russell-square, W.C., for the purpose of bringing together all those of the above classes who work in the metropolitan area—i.e., in Greater London or neighbourhood. To the rank and file of school medical workers there will be no need at the present juncture to labour the necessity of having some organisation adequately to press their claims, hitherto somewhat overlooked. It is therefore sincerely to be hoped that all those, of whatever rank, who are interested in the present and future welfare of the school medical service will strain a point to attend at the time specified. Those who cannot do so will materially help by sending their names and any suggestions they wish to make to me.

I am, Sir, yours faithfully,

S. B. WALSH.

Hampden Club, Phoenix-street, N.W., April 14th, 1914.

DONATIONS AND BEQUESTS.—By will the late Dame Sarah Annabella Boughey, of Sundorne Castle, Shrewsbury, bequeathed £15,000 for the purchase of land and the erection thereon of a cottage hospital at Newport, Salop, to be called the "Annabella, Lady Boughey Cottage Hospital."—The following institutions will benefit under the will of the late Mr. Frederick Ingle: British Home and Hospital for Incurables, Streatham, £1000; West London Hospital, £1000; St. Luke's House (Home for the Dying Poor), £1000; Maternity Charity and District Nurses Home, Plaistow, £500; Miller General Hospital, Greenwich, £500; Victoria Hospital for Children, Chelsea, £500; All Saints Hospital, Vauxhall Bridge-road, £500; Westminster Hospital, £550; Western Ophthalmic Hospital, £500; Bolingbroke Hospital, £500; and Metropolitan Convalescent Institution, £500.—Under the will of Mrs. B. S. Grewcock, of Pershore, University College Hospital, London, receives £1500 for the endowing of a bed to be called the "John and Bridget Grewcock Bed," and a similar sum is received by Epsom College for the provision of pensions "for retired legally qualified medical men who from old age, permanent incapacity from illness, reduced circumstances, or other causes in the opinion of the Council are in need of such allowance or pension."

THE NATIONAL INSURANCE ACT.

THE STATE MEDICAL SERVICE ASSOCIATION.

A PUBLIC meeting was held recently in London at the Essex Hall by the State Medical Service Association, under the presidency of Sir George Kekewich, when Sir John Collie moved the following resolution:—

That this meeting, being of opinion that the present arrangements for the prevention and treatment of disease are wholly inadequate to the needs of the community, calls upon the Government to establish a complete State Medical Service, freely available to all, as the only means by which the health of the nation can be efficiently maintained.

Sir John Collie, in proposing the resolution, dwelt upon the difficulties attending the prevention of malingering under the Insurance Act and of consequent excess of disbursement on sickness benefits. He spoke of the institution of a medical service as inevitable when the dependents of those now insured became entitled to medical attendance. Professor Leonard Hill, in seconding the resolution, dwelt upon the advance of medical science in the direction of prevention, and advocated a medical service as a means of combining the prevention with the treatment of disease. Mr. A. G. Gardiner and Dr. A. Salter also spoke, the latter describing the difficulties which under existing circumstances tended to render inadequate the supply of medical men in working-class districts. He further pointed out that whereas the Chancellor of the Exchequer had estimated that about 30 per cent. of the insured patients on a practitioner's list would be attended by him in the course of a year, the secretary of the British Medical Association had estimated that in the light of experience about 65 per cent. would be much nearer the mark. According to the speaker's personal experience in his own practice and of that of other medical practitioners in the East-end, from 82 to 92 per cent. of the insured had to be seen in the year. In order to provide the necessary increase in the numbers of the medical profession he recommended the democratisation of the profession, and made suggestions as to the lines upon which education for this purpose might be arranged. The resolution was carried.

MANCHESTER INSURANCE COMMITTEE AND CRITICISM OF PANEL PRACTICE IN MANCHESTER.

Dr. T. A. Helme, at a recent meeting of the Manchester Insurance Committee, made a vigorous speech with regard to the allegations of inadequate medical service at Manchester, the consideration of which has been referred to a subcommittee. Resolutions of the Medical Committee were read, calling the Insurance Committee's attention to (a) the insufficiency of medical remuneration, the income available having proved hitherto less by £70,000 than what would be necessary to pay medical men on the panel on the official scale arranged; (b) the insufficiency of the drug fund to provide and in particular to its inadequacy for the provision of the most appropriate remedies for many serious cases; (c) unfair charges publicly made of malpractice and careless treatment, resulting in resentment and consequent lack of interest in insurance work on the part of medical men. Dr. Helme declared that patients had been given under the Act as good treatment as they had enjoyed as private patients