stimulant cough medicines, breathing exercises, and carbon dioxide also have their place in the treatment of post-operative atelectasis.—I am, etc.,

Newcastle-upon-Tyne.

M. H. ARMSTRONG DAVISON.

Penicillin for Breast Abscess

SIR,—A recent article by Florey, MacVine, and Bigby (Dec. 7, 1946, p. 845) stimulates me to present the results of a series of cases treated by one method which they employed—namely, aspiration of the abscess and injection of penicillin solution into the cavity. The technique employed was essentially similar to that which they advocate. The cases referred to presented themselves mainly in the spring of 1946, when the shortage of beds was extremely acute. Previous work on the value of penicillin used locally in abscess cavities of various types, both acute and chronic, infected with the staphylococcus, and particularly the occasional reports of breast abscess treated by such methods, suggested that these cases might respond to local penicillin. They were therefore treated as out-patients in the casualty department of the Royal Infirmary, Leicester.

The series consisted of 24 cases of whom 15 were primipara and 9 were multipara. Of the latter, two presented with abscesses in both breasts, and four gave a history of mastitis in a previous pregnancy, including both the bilateral cases. About one-third of the mothers had not persisted with breast-feeding for more than a few days, and subsequently had not regularly emptied the breasts.

The abscesses were first seen in various stages of suppuration from early localization to obvious fluctuation. All cases were treated as follows. Aspiration of the abscess was carried out using a wide-bore needle and with full sterile precautions. Pus was found in every case. The pus was replaced with calcium penicillin in normal saline in amounts varying from 50,000 to 200,000 units through the series. A light general anaesthetic was employed with very nervous patients. Cultures of the pus were made in each case and all yielded penicillin-sensitive *Staph. aureus*. The procedure was repeated in 24 hours in all cases. In 19 cases, including one bilateral, relief from pain was considerable within the first 24 hours of treatment. In the remaining five cases the abscesses remained large, and further daily aspirations up to the fifth day were made. These were all late cases when first seen, with well-established cavities. Two eventually healed after discharging freely from the sinuses which had formed along the needle tracks. The remaining three required incision and drainage.

Of the 19 cases which cleared up satisfactorily, 2 relapsed, one after 10 days and the other after 16. Both were given two further aspirations and injections of 100,000 units of penicillin, after which they healed with no further trouble. *Staph. aureus* was again grown from both.

All the cases in the series were given a routine course of 30 mg. of stilboestrol spread over five days and the normal breast was manually expressed until the flow ceased. In the 19 cases which responded well the total duration of treatment until complete recovery was approximately two weeks, although in some cases a firm painless nodule could be felt up to the fourth and fifth week. The quantity of penicillin injected appeared not to affect the recovery time to any marked extent. In about half the cases, particularly those from which fairly large quantities (more than 5 ml.) of pus were aspirated, sinuses formed along the needle track and pus discharged freely. All dressings were therefore performed with a completely sterile technique.

(1) The series is too small for generalization, but it seems clear that in cases seen early in the stage of localization, when the volume of the abscess is small, this method of treatment is a satisfactory one and an improvement on surgical methods; however, in late cases where large cavities are present it would appear not to be efficacious except as an adjunct to incision and drainage. In this case the intramuscular route is probably the best method of administering the penicillin.

(2) These cases can often be treated in a satisfactory manner as out-patients without surgery, particularly in view of the present bed shortage.

(3) Inquiries among several practitioners in the district suggest that the aetiology of many cases in an industrial town such as this is closely connected with the fact that many women resume work shortly after the puerperium and find it inconvenient or impossible to continue breast-feeding. They do not, however, empty the breasts adequately and stagnation of milk occurs.

I am indebted to Mr. Rizelle, the surgeon in charge of the casualty department, for permission to publish this article and for his advice at all times.—I am, etc.,

West Drayton, Middlesex.

S. J. KRISTER.

Co-opted Members on Negotiating Committee

SIR,—It may not be obvious to everyone that the sub-committees of the Negotiating Committee contain the names of many co-opted members, but it is a fact which, I think, needs definite stressing. It is no doubt necessary to adopt this procedure in order that each particular division of practice should receive the fullest consideration in relation to the Act.

In view of the amount of careful thought, time, and trouble which have been bestowed on the negotiation and election of the Negotiating Committee, it is to be hoped that the votes of such co-opted members will in no case outweigh those of the elected members, especially when one remembers that the report of the Negotiating Committee on a previous occasion was in fact the report of a small subcommittee which was put, quite formally and without the opportunity for discussion, to the full Negotiating Committee before being considered by the Council.—I am, etc.,

Hungerford, Berks.

D. H. STUART BOYD.

National Health Service Act

SIR,—Dr. D. G. ff. Edward (March 15, p. 352) contends that we ought not as a profession to oppose the new medical service Act because to do so is undemocratic. May I try to expose the fallacy of such argument? Many besides him are bemused by it nowadays. In fact the general cry is for democracy as the universal cure-all.

A little reflection will show that a whole-hog version of it can never achieve real efficiency in government for the simple reason that its actions can only be the resultants of the more or less fused ideas of every individual on the electoral roll. Some may be very well informed and well balanced while others will be comparatively ignorant or stupid or both. Efficiency under the democratic system is only to be achieved when people will curb themselves and refrain from interfering in matters they do not understand. On the other hand, those who do understand should assert themselves and explain to, persuade, and be prepared to lead their fellows. That is what our position should be. The general mass of the people is as profoundly ignorant of the working of our profession as it is of the science and art of medicine. If we keep silence we let the whole affair go by default, for we have abundant evidence that the Government itself is little if any better informed in this business than the "man in the street."

Anyone desiring to study this matter further will do well to read *The Limits of Pure Democracy*, by W. H. Mallock; Chapman and Hall; 1918—a veritable mine of information and sound thought.—I am, etc.,

Doncaster.

W. REGINALD WILSON.

Trichlorethylene in Midwifery

SIR,—Perhaps some of those who have inquired about the use of trichlorethylene in midwifery might care to try the simple, cheap apparatus which I described in 1944 in the *Journal of Obstetrics and Gynaecology*.

The first apparatus was improvised in a few minutes and could be again by anyone wishing to try the method. The concertina rubber tube is disconnected from a standard Boyle's gas-oxygen machine, complete with face-piece and three-way gas-cock. The free end of the tube fits nicely over one neck of a 16-oz. (450-ml.) Woulfe's bottle. A piece of standard rubber drainage tube is inserted into the other neck of the bottle so as to fit closely and reach to within about two inches of the bottom. It is then cut off flush with the neck, the natural curve of the tubing being allowed to direct it to the centre. The mask must be of the inflatable rim type and in good condition. In the absence of positive pressure from gas cylinders, etc., the

amount of the drug inspired depends entirely upon the gas-tight fit of the mask. One ounce (28.4 ml.) of trichlorethylene poured into the bottle makes the apparatus ready for use. The three-way tap is kept permanently in the "valves" position so that the patient inspires over the trilene and expires into the air. To make the apparatus more foolproof, so that the analgesia can be self-administered, a special gas-cock, made for me by A. Charles King, Ltd., can be used. With this the tap position cannot be varied and the valves are of a special low-inertia type.

The cost of the apparatus, using new parts throughout, was about 50s. in 1944, which is ludicrously low compared with that of any other machine. In addition to the above a small wooden box, in which to stand the Woulfe's bottle to prevent its being knocked over, can be used if desired. The diagram will perhaps eke out the deficiencies of the description.—I am, etc.,

Stockport, Cheshire.

WALTER CALVERT.

REFERENCE

Calvert, Walter (1944). *J. Obstet. Gynaec. Brit. Emp.*, 51, 140.

Shortage of Nurses

SIR,—There has been a great deal of prominence given recently to the shortage of nurses, which, as Dr. Leonard Ley says (March 15, p. 355), is already serious. I have not so far seen any helpful constructive suggestions from the General Nursing Council itself. In this profession good pay, food, and accommodation are not *all* that is necessary to attract younger men and women. Happiness, peace of mind, and interest in one's work are far more valuable to the individual than "good hours of work."

I think a great many suitable, capable, practical nurses are lost to the profession on account of the excessive amount of book work and lectures—often far too advanced and detailed for the needs of a good practical nurse. How often do the lectures and tutorials interfere with the continuity of their ward duties and so damp their interest? These young keen recruits are given lectures on all sorts of quite new subjects and have to copy out their lectures afterwards in their "spare" time. These lectures may then be "corrected" by the sister tutors—surely a very boring process for both parties. Far better give them questions to answer on paper if they must have "home work" and let the sister tutor correct these. The introduction to the theory of nursing is far too rapid and too short, and I think the suggestions in the last two paragraphs of Dr. Ley's letter are suggestions on the right lines.

There seems to be a lack of appreciation on the part of the General Nursing Council of the fact that recruits in former days were mostly from the 20–30-year-old group, whereas now they range from 17 years upwards. What is the use of trying to teach these young people about the circle of Willis, the functions of the pituitary and suprarenal glands and the endocrine secretions, the sympathetic nervous system, or about cisterns, traps, drains, water standards of purity for domestic use, and "parasites" (just as a whole—no detail in the syllabus), all of which are included in the General Nursing Council syllabus?

A great opportunity was lost during the war by not giving those women who were "directed" into or chose nursing in preference to the Services the opportunity of learning more about nursing proper. A question to all those who were directed into nursing duties during the war should prove helpful and enlightening to those who are worried and puzzled by the position. As I have written elsewhere on a previous occasion the questions must be searching for the truth and should include such questions as: Why did you prefer nursing to the Services? How much actual nursing did you do and over how many years? Were you asked if you would like to become a trained nurse or were you offered any suggestion that you should sit the preliminary examination? Would you still take up nursing if you were allowed a year or more off the training period on account of your war service? What suggestions would you make to attract more recruits to the nursing profession? Surely such a questionnaire, if properly analysed, would provide ideas for the better recruitment of nurses.—I am, etc.,

Aberdeen.

W. M. GRAY.

Obituary

SIR JOSEPH BARCROFT, C.B.E., F.R.S.

Sir Joseph Barcroft died suddenly at Cambridge on March 21 at the age of 74. He was one of the great figures in British physiology. His classical researches were on the respiratory function of the blood, and in the course of his investigations he devised, among other instruments, the Barcroft apparatus, a differential manometer for measuring gases in small samples of blood. His work in this field is familiar to every medical student. Sir Joseph Barcroft was professor of physiology at Cambridge from 1926 to 1937. After his retirement he began a new career of research in animal biology, to which he contributed almost as much as to human physiology.

Joseph Barcroft was born on July 26, 1872, a son of the late Henry Barcroft, of Newry, Co. Down. He was educated at Bootham's School, York, and at the Leys School, Cambridge, before entering King's College, Cambridge, where he was a prizeman and exhibitor in 1894. He took a first in both parts of the Natural Science Tripos and graduated in 1896. He was awarded the Gedge Prize in 1900, the year in which he was elected F.R.S., and only shortly after his election to a fellowship at his college. While reader in physiology in the university he soon became known as an able lecturer and research worker. He was Oliver Sharpey lecturer at the Royal College of Physicians in 1915 at a time when his war work was fast making him one of the leading authorities on defence against gas. He was president of the physiological section of the British Association in 1920 and Fullerian Professor at the Royal Institution from 1923 to 1926. Whereas his work before the war had been mainly concerned with the action of haemoglobin as a carrier of oxygen, his interest now shifted to various problems of blood flow and respiration. Later still he worked on the physiology of the nervous system as controlling respiratory movement.

In 1925 Barcroft, on the death of Langley, succeeded to the chair of physiology in Cambridge. Throughout an active life he played a prominent part in maintaining the high tradition of the Cambridge School of Physiology. As head of a large laboratory he found time to take a lively interest in many different investigations, without actively interfering with the natural development of the ideas of his colleagues. His own contributions were many, but perhaps his greatest influence on physiology was through his encouragement of the work of younger men. His enthusiasm, his good humour, his attractive style of writing and speaking, and his unusual gift for putting the complicated results of profound thought into the simplest possible language inspired many with a love of his special subject. Though he was not a medical man, much of Barcroft's work was with human subjects, and much of it had a dramatic quality that excited interest in other than academic circles. Thus for many years he represented Cambridge against Oxford in favour of the view that the passage of gases through the epithelium of the alveoli of the lungs was a simple physical process, and that even under adverse conditions the lungs could not take up oxygen unless the oxygen pressure in the air was greater than that in the blood. In the course of his work on this subject he led an expedition up the Andes at one time, and on another occasion he exposed himself to low oxygen pressures for several days in a glass box in his Cambridge laboratory.

He was knighted in 1935 and in 1937 he was succeeded by Prof. E. D. Adrian. At this point in his life he had already received marks of distinction from many foreign societies.

[Lafayette.