

Staffing of Hospitals

SIR.—Critics of municipal hospitals have paid little attention to the gradual change in method of staffing all hospitals. The traditional staff of part-time consultants with resident house officers was first supplemented towards the close of last century by the appointment at teaching schools of full-time pathologists. Later, the clinical staffs were reinforced by the creation of registrars and resident surgical officers, and full-time anaesthetists followed.

In the years following the last war a number of London and Scottish schools altered the conditions of tenure of professorial chairs by restricting private practice and requiring more time to be devoted to hospital and teaching duties. About this time also a number of hospitals employed full-time radiologists. The most recent exhibition of this tendency is in regard to orthopaedic surgeons. "The results were often disastrous," says Mr. Watson Jones, "not because surgeons were lacking in skill, but because this skill was not available to the patient at the moment that it was most required." What is this but an argument in favour of the municipal method of staffing, and one, moreover, recently recognized in Birmingham by the establishment of an Accident Centre with a full-time director?

In view of this tendency enthusiasts for the voluntary system should pause before condemning the municipal, at any rate on the score of its method of staffing. It is also worthy of note that that favourite target—the medical superintendent—is not a recent municipal invention, but was begotten of the Scottish voluntary hospitals at a time when the consultants were "giants, but quarrelsome giants."—I am, etc.,

Burnley, Nov. 15.

A. DUFF.

A Municipal Hospital

SIR.—The record of facts concerning the Redhill County Hospital, Edgware, as set out by its permanent staff (November 15, p. 711), looks quite Utopian on paper. With some experience of the scheme in practice there, I feel that the disadvantages should also be recorded.

1. That most pernicious of our national characteristics—the tendency to get into a complacent rut—is fostered by the security of tenure and financial security without private practice.

2. The two greatest stimulants to progress and initiative—namely, competition and the struggle for existence—are completely eliminated by this scheme.

The best-run, most progressive municipal hospital of my experience was presided over by a superintendent who may fairly be described as a benevolent tyrant. However, after many months under both systems, I am happy to be back in the voluntary hospital service.—I am, etc.,

Royal Infirmary, Preston, Nov. 16.

UNA M. WESTELL.

Diabetes and Chronic Nephritis

SIR.—Dr. Tadeusz Markowicz's letter on diabetes and chronic nephritis (November 8, p. 670) raises some interesting questions.

His letter does not display evidence of chronic nephritis in the case under consideration. Oedema can, I believe, be a feature of diabetes mellitus. No degenerative lesion of the kidney could be removed by an injection of mersalyl. The absence of albumin after the injection disproves the presence of a chronic kidney lesion. The functional disturbance to which albuminuria may be attributed is sufficient to account for a few epithelial cells and hyaline casts. Just what is the intimate mechanism which produces albuminuria is, so far as I know, unknown to medical science.

What was the action of the mersalyl and how did it produce its results? A possible explanation is that it altered the renal threshold. It was pointed out in these columns some years ago that a diabetic glucose-tolerance curve may be present without glycosuria. This must have been the situation five hours after the mersalyl, when the urine was sugar-free. The work done by the kidney in separating water and salts for excretion against the osmotic pull of a blood sugar of 226 mg. per 100 c.cm. must be very great indeed. No theory of the physiology of the kidney can, so far as I can see, explain it.

None the less, the diuresis must be looked upon as responsible for the improvement in the general condition. The obvious suggestion is that the improvement of the water balance faci-

tated the function of the peripheral tissues, possibly improving their capacity for using sugar.

The problem presented by the function of the kidney in diabetes calls to mind that the disease was first named after the polyuria. The pituitary, which is now being introduced into our picture of the dysfunction of diabetes mellitus, is associated with another form of polyuria in diabetes insipidus. But whereas substitution therapy with posterior lobe extract will abate polyuria in insipidus, removal of the gland abates it in the diabetic animal. If we assume, as is reasonable, that pituitary extract acts on the kidney in cases of diabetes insipidus, we are at a loss in any attempt to envisage the nature of that action by reason of our ignorance of the intimate nature of kidney function. It is, however, to be noticed that in cases of diabetes insipidus the kidney is able to separate excreted water from salts, an achievement similar to that required to explain the action of mersalyl in the present case.—I am, etc.,

Coventry, Nov. 18.

K. E. BARLOW.

The Nutritive Value of Bread

SIR.—May I ask for space to reply to the criticisms made by Dr. Margaret D. Wright (November 15, p. 689) of an experiment of mine in which comparison was made between the nutritive values of wholemeal and white flour to which extra vitamin B₁ was added (*Lancet*, October 26, 1940).

In my experiment two groups of litter-mate rats, 4 weeks old, received Diets 1 and 2 containing, respectively, 88% of white flour (73% extraction) and 82% of wholemeal (100% extraction). Both flours were obtained from the same wheat. In order to ensure optimum provision of protein and minerals, both diets contained purified casein (6%) and salt mixture (2%); cotton-seed oil was also present (4%). All the rats received a daily dose of cod-liver oil to provide vitamins A and D, and those on Diet 1 also 10 µg. daily of pure vitamin B₁ to correct the deficiency in this vitamin. The rats on Diet 1 increased in weight (av. 12 g. weekly) at about one-half the rate of those on Diet 2 (av. 23 g. weekly); when after two weeks the diets were changed over, the relative growth rates changed correspondingly. The rats receiving Diet 2 ate more food but also made better use of it, the average weight of ingested dry food (2.3 g.) corresponding to a weight increase of 1 g., being about 30% less than was the case with Diet 1 (3.1 g.). From this result the conclusion was drawn that white flour, even when extra vitamin B₁ is given and the defects in protein and minerals also corrected, is still inferior in nutritive value to wholemeal. The residual defect was held to be a relative lack of the B₂ vitamins, and this conclusion has since been confirmed by work carried out in this Division by Miss A. M. Copping, who has shown white flour to be inferior to wholemeal in its content of riboflavin, vitamin B₆, and "filtrate factors."

Dr. Wright's chief criticisms may be summarized and answered as follows:

1. Dr. Wright considers that the rats receiving the white-flour diet increased in weight less rapidly because they ate less food and thus obtained less protein, the reason for the smaller appetite being not that this diet was less nutritious but that it was less palatable than the corresponding one made with wholemeal. Whatever the diet, increase of weight in young growing animals depends on the amount of food intake. Increase of appetite, with corresponding increase of growth rate, is a usual occurrence when, for example, an essential vitamin is added to a diet in which it has been hitherto lacking. This is a result of the enhanced nutritive value of the food, and occurs even when the vitamin is given as a minute dose of the pure substance, and can have no effect on the palatability of the ration as a whole. The rats receiving the wholemeal diet in my experiment not only ate more of it but, as stated above, utilized it to better advantage than did those having the white-flour diet.

2. Dr. Wright states that the rats receiving the white-flour diet received less vitamin B₁ than those on the wholemeal diet. This may be true, but 10 µg. daily, which the former received, has been found more than adequate for normal growth in rats of the age and weight employed.

3. Dr. Wright also considers that the rats receiving the white-flour diet received less vitamin E than those having wholemeal, which contains the germ. Adequate vitamin E was, however, supplied in both diets in the cotton-seed oil included.

In this laboratory rats have been reared for more than two generations on an artificial diet in which a small amount of cotton-seed oil was the only source of vitamin E.

4. The number of animals (nine in all) employed in my experiment is considered too small to enable satisfactory conclusions to be drawn. The results were, however, so clear-cut that I have no reason to doubt their significance. In my own experience, as much information may often be gained from nutritional trials on a few animals, individually observed and cared for, as from others involving large numbers.

One error in Dr. Wright's account of my work should be corrected—namely, the statement that my comparison was made between "a straight-run white flour (73% extraction)" and "wholemeal (82% extraction)." The "wholemeal" flour used by me contained, as the term signifies, 100% of the grain.—I am, etc.,

Division of Nutrition,
The Lister Institute, Nov. 23.

HARRIETTE CHICK.

Anglo-Soviet Medical Committee

SIR,—The Anglo-Soviet Medical Committee invites members of the medical and dental professions and students of these professions to give their support to the work of the Committee by becoming associate members. The aims of this body have already been published in medical and dental journals, but for those who did not see the original announcement they are as follows: (1) To form a liaison between the medical professions of both countries. (2) To exchange the latest clinical and scientific knowledge. (3) To facilitate visits of medical specialists between the two countries. (4) To give specialist advice on medical aid to the U.S.S.R.

It is proposed to make the minimum subscription for associate members 5s. per annum, the funds so raised to be used for the expenses of the Committee's work. A bulletin will be issued from time to time giving reports on the work accomplished by the Committee. A general meeting for members and associate members will be held early in the new year. Those who wish to become associate members should write to the hon. secretary, Anglo-Soviet Medical Committee, c/o the Royal Society of Medicine, 1, Wimpole Street, London, W.1. The Committee feels that there are many members of the medical and dental professions who would like to take this opportunity of contributing to the national effort and assisting our ally.—We are, etc.,

ALFRED WEBB-JOHNSON,
President.

H. HAROLD SCOTT,
Chairman of the Executive Committee.

PHILIP MANSON-BAHR,

JOHN A. RYLE,
Members of the Executive Committee.

Nov. 17.

Obituary

WILLIAM JAMES PENFOLD, M.B., C.M.Ed., B.Hy.
D.P.H.DURH.

The report of the death in Melbourne on October 27 of Dr. W. J. Penfold will be received with great regret by his former bacteriological confrères in this country, and by old colleagues who still retain a vivid memory of his personality and a very conscious appreciation of his scientific achievements during his eight years' sojourn (1908-16) at the Lister Institute, first as B.M.A. scholar and later as a member of the bacteriological staff.

Entering the research field as he did after some twelve years of medical practice it is remarkable that he so rapidly accommodated himself to the laboratory life and that he succeeded in producing in the short space of eight years work of such high quality and permanent value. All the time he was the thinker, tensely strung up until he could submit to experiment some idea that may have come to him overnight. At times, indeed, his fertile imagination presented him with ideas for experiment that in his own interest it seemed desirable to restrain him from exploiting, but throughout he proved him-

self a most acute observer, eminently judicious in drawing conclusions while determined to secure the last ounce of information from his data. In all he published some twenty-five papers during these eight years, the majority of which were concerned with the experimental study of variation and mutation in bacteria—a study which was then engaging the attention of many bacteriologists in this country and abroad. To this subject, particularly in connexion with the fermentative properties of *B. typhosum* and the coliform bacteria of the intestine, he made many significant and substantial contributions which cannot be detailed here, but I would stress that their significance was all the greater from the fact that with the co-operation of Harden and other biochemical colleagues he was able to throw light on the laws governing the variations studied and on the enzymic mechanisms possessed by the variant forms. On the subject of salvarsan fever, salt fever, and experimental fever following the introduction of bacterial pyrogens he collaborated in a valuable series of papers with the late Dr. E. C. Hort. At the King George Hospital in the early years of the last war he collaborated with the writer in an investigation of typhoid, paratyphoid, and dysentery cases from the Dardanelles, and with Dr. Major Greenwood he carried out an inquiry into the possibilities of preventive inoculation against meningococcal infection during the prevalence of cerebrospinal meningitis in Salisbury.

In 1916 Penfold resigned his post at the Lister to take over the organization and control of what are now the Commonwealth Serum Laboratories in Melbourne, with their many additional responsibilities in the manufacture of biological products of all kinds. The success of this establishment in the intervening years is in great measure due to Penfold's administrative and organizing powers during its formative phase and to the energy he threw into the formidable task set him on his arrival in Australia. Of necessity but none the less regrettably the new sphere of work broke the continuity of the researches to which he was so wholeheartedly devoted in England, but soon problems of a different kind attracted his attention. For a time he was greatly intrigued with and strongly advocated the practice of "refusion," by which is understood the returning to the horse of the deposited red cells from a bleeding, thus assisting the animal, or so it was believed, to sustain the loss of much greater quantities of blood within a short interval.

In 1927 Penfold resigned his directorship of the Commonwealth Serum Laboratories to take up the newly created post of Director of the Baker and Shaw Medical Research Institute attached to the Alfred Hospital, for the pathological work of which it also catered. Here, attracted by the varied pathological material available, Penfold was able to resume in great measure his research activities, and between 1927 and 1938, when he retired, he contributed to the *Medical Journal of Australia*, with the co-operation of various colleagues and pupils, including his son, H. B. Penfold, a steady flow of papers on a great variety of subjects, the mere titles of which give ample evidence of his curious, versatile, and inventive mind. In 1935 he gave the Bancroft Memorial Lecture on medical research in Australia, and in the same year took a prominent part in the work of the Annual Meeting of the British Medical Association in Melbourne. His retirement in 1938 from the Baker Institute was followed by many tributes to his work for Australia since his arrival there in 1916. In Melbourne scientific circles he will, I feel sure, be greatly missed, for he was a doughty controversialist and a ready speaker in debate on any platform, scientific or political. By those with whom he worked in London some thirty years ago he will be remembered as a most amiable and stimulating colleague. *Ave atque vale.*

J. C. G. L.

The following well-known medical men have died abroad: Dr. F. KAPKA, director of the psychiatric clinic at Prague; Dr. ALEXANDER WESTPHAL, professor of neurology and psychiatry at Bonn; Dr. HEINRICH KLEIN, professor of neurology and psychiatry at Leipzig, aged 66; Dr. MAX AARON GOLDSTEIN, founder and editor of the *Laryngoscope* and past president of the American Academy of Ophthalmology and Oto-laryngology, aged 71; Dr. MEYER BODANSKY, professor of pathological chemistry at the University of Texas School of Medicine and author of *Introduction to Biological Chemistry*, aged 45; and Dr. JOHN PRICE CROZER GRIFFITH, emeritus professor of paediatrics in the University of Pennsylvania and author of a well-known textbook on diseases of infants and children.