and of the Divisions and in this way seize the opportunities to increase their representation in the R.B. Since 1933, of the nine Chairmen of the R.B. only two have been consultants and of the six Chairmen of Council over the same period only one has been a consultant. To-day the Chairman of Council and the Chairman and Deputy Chairman of the R.B. are general practitioners—a reflection surely of the fact that general practitioners have had a long experience and training in medical politics since the introduction of N.H.I. 46 years ago. A more widespread and energetic participation of consultants and hospital medical staff in the peripheral and central work of the Association will no doubt in time lead to their representation in these high offices. If there has been some confusion about the separate action by part of the consultant body there has also been a feeling of uneasiness about the autonomous powers of the two largest of the Association's standing committees even though such powers have been used with forbearance and discrimination. When the G.M.S. and the C.C. and S. Committees had these powers renewed for the coming year amendments aimed at restricting them were deferred for consideration next year. The conduct of medico-political affairs and negotiations with the Government have got into a tangle, extrication from which will need constructive statesmanship on the part of the profession's leaders. The guiding principle in this for 70,000 members of the B.M.A. is expressed in the first object of the Association: "To promote the medical and allied sciences, *and to maintain the honour and interests of the medical profession*" (our italics). Medical men set up a voluntary association for this purpose and continue to join it and belong to it for this purpose.

Many items on the agenda of the A.R.M. were inevitably on remuneration, and it is interesting to note that during the debate on the Report by Mr. T. Holmes Sellors of the work of the Central Consultants and Specialists Committee there was a lively interest in and wholehearted support for motions pressing for increased pay for medical auxiliaries, special reference being made to the need for improving the status, conditions of service, and pay of radiographers. Other motions showed much concern for the position of junior hospital medical staff, and in particular registrars, and the Meeting passed with a large majority the following motion: "That this Representative Meeting is concerned with the prospects and future of registrars and S.H.M.O.s, and with the supply and distribution of consultants. It asks Council to look at the problem afresh in consultation with members of the groups concerned and report back to the Representative Body."

When the B.M.A. holds its Annual Meeting next year under the presidency of Professor A. P. Thomson the Representative Body, under its new Chairman Dr. A. Beauchamp, will probably have before it more contentious and difficult matters than those with which it has had to deal this year. By then the Report of the Royal Commission will probably be available and reactions to it will be various, but if the spirit which informed the Meeting in Newcastle prevails we may be sure that what differences of opinion there may be will be kept within the unity that an ancient profession is, and that all members, whatever their sectional interests are, will recognize that the Association to which they belong exists, in the words of the second sentence of its first object, "to maintain the honour and interests of the medical profession."

PENICILLIN V

The acid-resistant property of phenoxymethyl penicillin was discovered by a fortunate accident in a factory in Austria several years ago, and earlier studies of its therapeutic use were conducted wholly in that country. It became available elsewhere in 1955, and we referred last year in these columns[1] to favourable reports on its therapeutic action from the Mayo Clinic and elsewhere. The facts about its behaviour in the body are simple and well ascertained. Unlike penicillin G, which is destroyed in the stomach to an extent varying inexplicably in different subjects, penicillin V traverses the stomach unchanged, and a constant amount of about 25% of the dose given is excreted in the urine. Absorption is thus regular, but presumably not complete, since after parenteral injection the proportion of the dose recoverable from the urine is about 60%. In antibacterial action penicillin V is not the precise equivalent of penicillin G, for staphylococci are either equally or somewhat more sensitive to it, and streptococci sometimes less. It has the distinction of being the only form of penicillin yet prescribed by weight: 60 mg. is the equivalent of 100,000 units. On theoretical grounds at least it is much the most dependable form of penicillin for oral treatment, and clinical experience in the United States seems to have confirmed this.

Two reports on clinical trials of this form of penicillin appear in the *Journal* this week. Drs. R. Lamb and E. S. Maclean, of Greenock, report that they used it in all cases requiring penicillin treatment, giving a dose of 120 mg. four times a day to adults. Of their 110 patients, 100 had acute pulmonary infections, and 63 of these were untreated on admission. The

[1] *British Medical Journal*, 1956, **2**, 1355.
[2] Eriksen, K. R., and Therkelsen, F., *Acta chir. scand.*, 1954, **107**, 456.

response of those with lobar pneumonia appears to have been uniformly satisfactory, apart from two examples of delayed resolution. The only deaths were in cases of bronchopneumonia complicated by other disease. Among other miscellaneous cases successfully treated were two of infection of the blood stream and two of anthrax. The antibiotic failed in one case of cellulitis due to a penicillin-resistant staphylococcus and one of ulcerative endocarditis. These authors are evidently convinced that this is a satisfactory way of administering penicillin, and they naturally commend its simplicity and the advantage to the patient of obviating the discomfort of injections. The second study is that of Drs. J. I. Burn, R. G. Huntsman, and R. A. Shooter and Mr. M. P. Curwen, of St. Bartholomew's Hospital. It was concerned with septic conditions, mainly staphylococcal, seen in an out-patient department, which were of sufficient severity as shown by lymphangitis or lymphadenitis to call for chemotherapy. Their total of 346 patients were treated in alternate six-week periods with 250 mg. penicillin V three times a day, or a single daily injection of 600,000 units of procaine penicillin with 200,000 units of soluble penicillin. There was little difference in the response of the two groups, except that, as judged by rate of healing, some of the cases treated by injection responded more rapidly. On the other hand the average time to healing differed by only one day between the groups. Patients treated by injection, and consequently attending daily, more often had their lesions incised. But it does not appear that this factor affects the general conclusion that oral treatment with penicillin V is at least almost the equivalent of penicillin by injection for this type of case.

The results of this study include a by-product of perhaps greater consequence than the main conclusion. The treatment of these cases was begun when they were first seen, and not usually changed whatever the subsequent bacteriological findings. The consequence of this policy was that cases of infections due to penicillin-resistant staphylococci continued to be treated with penicillin. Contrary to theoretical expectation, their progress differed little from that of patients in whom the staphylococcus was sensitive to the antibiotic. Only in the time taken for the disappearance of signs and symptoms due to lymphatic extension was there a slight difference in favour of infection by sensitive organisms. This paradoxical finding could mean one of two things. There were no controls untreated with antibiotics, and it could be argued that such infections are of a self-limited nature, capable of resolving without chemotherapy in the great majority of patients, so that penicillin in any form would make little demonstrable difference to their course. Alternatively, penicillin must have shortened the course of both types of infection and thus have been almost equally effective against a resistant organism. Most resistant staphylococci are not intrinsically so; they owe their capacity to grow in the presence of the antibiotic to the formation of an enzyme which destroys it. When the number of bacteria is very small there is not enough enzyme to have this effect, and the few unprotected cocci are almost as vulnerable as a sensitive staphylococcus. As these authors point out, this may well be the state of affairs in the periphery of the lesion, though there can be no effect in the necrotic or suppurating centre, where the concentration of both cocci and enzyme must be high. This is not the first time that a therapeutic effect has been claimed for penicillin in infections due to resistant staphylococci. K. R. Eriksen and F. Therkelsen[2] maintain that they will respond to treatment, though larger doses are advisable when resistance has been detected. Most clinicians must have seen cases not behaving so satisfactorily, and it would certainly be unwise to rely on penicillin alone in a serious infection due to a resistant organism when alternative antibiotics are available to which the organism is sensitive. However, a policy for the treatment of less serious infections should perhaps be reviewed with an open mind in view of these findings. If it is accepted that oral penicillin V will serve for such patients whatever the properties of the responsible staphylococcus, a good deal of trouble could be saved in both the clinic and the laboratory.

ENVIRONMENT AND CONGENITAL MALFORMATIONS

The genetic determination of congenital malformations is well known in certain strains of laboratory animals, and there is good evidence that genes play their part in some human deformities. But environmental factors of various kinds are also of importance, and further knowledge of these may prove fruitful eventually in diminishing the incidence of these human disasters.[3] [4] Maternal infections, especially mumps, toxaemias, and irradiation during early pregnancy have all attracted some publicity. Vitamin imbalance of different kinds, imposed on pregnant laboratory animals, also leads to a wide range of congenital malformations in the offspring, though the dietetic measures employed have been of a grosser order than seem likely to obtain in any human society. In rats the maternal deprivation of vitamin B_{12}, and possibly of folic acid, has been productive of congenital deformities including hydrocephalus in the young. J. W. Millen, D. H. M. Woollam, and G. E. Lamming[5] have induced hydrocephalus in the young of rabbits by deprivation of vitamin A in the

[2] *British Medical Journal*, 1954, **1**, 809.
[3] Ibid., 1955, **1**, 715.
[4] Millen, J. W., Woollam, D. H. M., and Lamming, G. E., *Lancet*, 1953, **2**, 1234.
[5] Marie, J., and Sèe, G., *Ann. paediat. (Basel)*, 1953, **180**, 308.