was thought to be due to menstrual loss, and the patient has remained well.

Case 2.—A woman aged 45 was admitted under the care of Dr. L. S. Illis on 3 January 1968 with a severe headache and retching on drinking fluids. She had had cyclical vomiting as a child, but one sister had migraine. She had heard no bruit, but had noticed the headache worsened with alcohol. She was not taking an oral contraceptive. General examination revealed no abnormality apart from a blood pressure of 180/90 mm. Hg; there were no carotid murmurs. Bilateral carotid and orbital bruits were heard; the carotid bruits were abolished by carotid compression, but both orbital bruits remained. At one time a soft right occipital bruit was heard and did not disappear with carotid compression. The remainder of the neurological examination was normal.

Relevant haematology was: Hb 9.2 g./100 ml., M.C.H.C. 29%, iron-deficiency changes on the film. E.E.G. showed some 14–16 c.p.s. activity scattered over the occipital region. Case 2 demonstrated an alteration of bruits after angiography, although at the same time the haemoglobin fell (perhaps within the limits of experimental error). So bruits are relative, and we hope to study further their significance in neurological disorders. The differentiation of tinnitus in anaemia from a bruit heard by the patient should not normally be difficult. Tinnitus may occur in postural hypotension, and its nature will be known by the history. The first to publish this finding, which was discussed in the excellent review by Allen and Mustian.1

—I am, etc.,

CHRISTOPHER GARDNER-ThORPE.
Wessex Haematologist.
Southampton General Hospital,
Southampton, Hants.

Sir,—Dr. H. Garebee does well to draw attention to the presence of cranial bruits in severe anaemia (3 February, p. 294), a finding not mentioned in standard textbooks, although, I believe, familiar to most neurologists. However, the first to publish this finding, which was discussed in the excellent review by Allen and Mustian.1

—I am, etc.,

ALLAN W. DOWNE.
Department of Medicine,
University of Aberdeen.

REFERENCE
1 Allen, N., and Mustian, V., Medicine (Balti-
more), 1962, 41, 257.

Vaccination for Measles

Sir,—Money, we know, is short for the Health Service, yet a programme of general immunization costing £1 m. is to be started in the spring.

I have not seen a complication of measles for at least the last four epidemics and I do not prescribe routine antibiotics. A child who contracts measles ill for a few days and is protected for life. An injection of live vaccine may protect during childhood with a possible reaction for a day or two, leaving the possibility of measles infection in adolescence or later—a risk to be run, and an unpleasant one.

What does the individual gain? Can we afford this indefinite advantage at present? —I am, etc.,

Stourbridge, Worcs.
MARY J. BARTLETT.

Correspondence

General-practitioner Obstetrics

Sir,—One reads so much that is critical of general-practitioner maternity units that some attempt should be made to correct the perspective with regard to this valuable part of the obstetric services in Britain.

Some of these criticisms are made by medical men who are not obstetricians and who cannot have a first-hand knowledge of this subject or of those qualities in general-practitioner maternity units which are not expressed in general-practitioner sterilisation act. As an example, the patients who attend large specialist units often say that they see a different doctor at each visit. In this way the progress of an abnormal condition is less satisfactorily observed and contradictory lines of action may be followed by successive doctors. Continuity of care in the case of the general practitioner is an important feature and is the kind of quality which is not measured statistically.

The interpretation of the statistics is open to challenge. Repeatedly reasons are produced showing why figures which appear favourable to domiciliary and general-practitioner maternity unit confinements should be regarded as unfavourable, while the opposite procedure is applied to hospital figures.

Butler and Bonham have suggested that general-practitioner maternity units should be distinguished from units dealing with obstetrics and gynaecology.1

In the case of obstetric confinements some of the figures which are used to support this position are as follows:

Table 1.—Statistics Relating to Local General-practitioner Maternity Units

<table>
<thead>
<tr>
<th>Year</th>
<th>Private births</th>
<th>Multiparous</th>
<th>Still births</th>
<th>Neonatal deaths</th>
<th>Transfer to specialist units</th>
<th>Flying squad</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966</td>
<td>512</td>
<td>209</td>
<td>1</td>
<td>1</td>
<td>36</td>
<td>3</td>
</tr>
<tr>
<td>1967</td>
<td>661</td>
<td>29</td>
<td>2</td>
<td>1</td>
<td>24</td>
<td>3</td>
</tr>
</tbody>
</table>

Approximately 30 doctors use the general-practitioner maternity units.

In the figure of 29 transferred to specialist units were accounted for by less than 20% of which have been included in calculating the perinatal mortality rate for 1967. In one case the mother arrived at the general-practitioner maternity unit with pre-eclampsia and not, in the other case it was still pulsing on arrival at the specialist unit, but the fetus died before it could be delivered.

The figures relating to place of confinement are very variable and can even vary from one part of a group practice to another. I reviewed 100 deliveries in my own practice, which compare with the figures in the Perinatal Mortality Survey as follows:

<table>
<thead>
<tr>
<th>Place of Confinement</th>
<th>Perinatal M.S.</th>
<th>Own Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>36%</td>
<td>34%</td>
</tr>
<tr>
<td>G.P.s/H.U.</td>
<td>12%</td>
<td>17%</td>
</tr>
<tr>
<td>Specialist unit</td>
<td>49%</td>
<td>19%</td>
</tr>
<tr>
<td>Other</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

According to Hobbs and Acheson, general-practitioner units accounted for less than 20% of deliveries in 1962 in the Oxford area. The specialist unit deliveries of my patients consisted of 32 primipara cases, 2, breech 2, Rh sensitization 3, and normal deliveries 6—a total of 19.

The six caesarean sections were due to one case of uncontrolled hypertension, two cases of cephalo-pelvic disproportion, one case of placenta praevia, and the next section was due to a perinatal death.

At the maternity unit there were four forceps deliveries out of 47 deliveries—two for deep transverse arrest and two for delay in the second stage of labour. A survey of the next 100 deliveries was remarkable similar: 57 were confined at home, 47 at the unit, and 16 at specialist units.

Mothers living at the other end of this group practice (whose figures are not included here) are nearer to Oxford and that is much further from the general-practitioner maternity unit. A higher proportion of these mothers are booked at the specialist units in Oxford.

I certainly do not accept that mothers have suffered through being further away from a specialist unit, or from being confined at our general-practitioner maternity unit. The straightforward way between Oxford and Reading and about 12 miles from either centre.

It is for the general practitioner to decide whether the mother should be booked at a specialist unit, and in my experience patients accept the decision when the reasons are explained to them. This selection of cases is a highly important part of general-practitioner obstetrics in order that the relatively
small proportion of potentially abnormal cases should be directed to the specialist unit.

Despite the good record of our unit it has recently been suggested that all patients booked there should be checked at a specialist unit during their pregnancy to ensure that our selection of cases was not faulty. Some statistical studies may well be made to ascertain how this type of proposal reduces recruitment to general practice. Capable doctors will be driven to practice in other countries where they can make use of their skills.—I am, etc.,

A. P. MILLAR.

References

Oxytocic Drugs in Labour
Str.—A number of years ago, following work done by various obstetric groups on the use of oxytocic drugs either at the crowning or with the anterior shoulder, it was shown that there was a significant decrease in the occurrence of severe postpartum haemorrhages. As a result this practice became, as far as I know, adopted fairly universally in Britain, and it was so adopted by our local general-practitioner obstetric unit, which also trained pupil midwives.

Quite recently I recovered that this practice had been discontinued as a routine method for the midwives to use. On inquiry I was told that since the period that this method had been in use three undiagnosed twins had been trapped in the uterus; this practice had been discontinued.

It may be that I have missed some important piece of work done on the increasing frequency with which undiagnosed twins are trapped, but even if this is so I always imagined that it was because of the danger of maternal deaths from severe postpartum haemorrhages that this practice of using oxytocic drugs had been accepted.

If the former is correct, then it would seem that we are back again at the age-old problem of whether one should aim to save the mother's life or that of the unborn foetus. But surely a compromise could be found?

In the vast majority of cases there is no question of there being an undiagnosed twin. In those few cases (usually very large women, in my experience) in which there may be some doubt as to whether the pregnancy is single or double, then one could in such cases avoid using oxytocic drugs and give them in all other cases. All women coming to delivery in this country should have had adequate antenatal supervision by their doctors, and he could indicate to the midwife, if it was a case that the midwife was delivering, that it would not be wise to use oxytocic drugs. If this practice was followed I would imagine that the number of undiagnosed twins, ifidable only by the accidental use of routine oxytocic drugs would be negligibly small, and if our obstetrical authorities are still convinced that the routine use of oxytocic drugs does significantly reduce the chances of postpartum haemorrhages then we should have the best of both worlds.—I am, etc.,

R. G. Lyne-Pike.

Godalming, Surrey.

Nursing Services in General Practice
Str.—I was interested in Dr. A. Elliott's letter (20 January, p. 186), and his observations on the work undertaken by a Queen's district nurse in his practice. I would like to make the following three points in reply to him.

(1) We in this county employ district nurse/midwives wherever possible so that one nurse can undertake general nursing and midwifery duties. Again, we offer district training to all our nursing staff and this enables them to deal with the many day-to-day "social" problems which nurses encounter in the course of their work.

(2) Dr. Elliott mentions the need for experiment and debate on the best type of nursing aid for the family doctor, and I am in whole-hearted agreement with this. I endeavour to meet general practitioners where nurses are attached and, if, on the other hand, nurses are not attached, I ensure that the first nurse to arrive can deal with the patient according to his wishes, and that the second nurse can take care of the patient's needs, etc.

(3) The introduction of a "community nurse" is a difficult matter to deal with adequately until we know considerably more of what the doctor in general practice really expects of the community nurse/midwife. If the doctor wants a nurse to visit certain groups of patients not on treatment, keep them under observation, and deal with minor "social" problems, this could be achieved by suitable district nurses, and if, on the other hand, the doctor wants a general purpose social worker then health visitors with improved training would be more suitable.

If general practitioners and local health authorities were anxious to provide a more integrated community service then attachment of suitably trained district nurse/midwives appears to be the best way of achieving this. What we have yet to work out is the full range of duties that the nurse/midwife can undertake and the most appropriate training, and in my view this can only be found by experimentation and discussion with general practitioners who are willing to use district nurse/midwives as members of their clinical teams.—I am, etc.,

M. S. Hobbs, M.D.

Intake and Expenditure in Obesity
Str.—It is commonly held that obese persons overestimate their activity and under-estimate their dietary intake. We recently had the opportunity to evaluate this belief during a long-term energy balance study with six obese middle-aged housewives, average weight 221 lb. (100 kg.). During the initial interview each housewife was asked to relate in diary form her hour-by-hour activity the preceding day, and to decide whether or not this was typical of her usual daily activities over a period of a month. Subsequently energy expenditure diaries of the type described by Scottish workers were used each day for 28 days. Each housewife was advised to make daily visits to each housewife to assist in activity classification. The Kofrani-Michaelis respirometer was used to determine individual energy expenditure for each task. Daily energy expenditures were calculated by multiplying the energy cost for each task/unit time by the number of minutes spent at each task.

In Table I the mean daily energy expenditure for 28 days is compared with the same person's recall of a typical day's energy expenditure. There were large variations in energy expenditure from day to day in the same individual, but over the course of 28 days the difference was of the order of six obese middle-aged housewives, average weight 221 lb. (100 kg.). During the initial interview each housewife was asked to relate in diary form her hour-by-hour activity the preceding day, and to decide whether or not this was typical of her usual daily activities over a period of a month. Subsequently energy expenditure diaries of the type described by Scottish workers were used each day for 28 days. Each housewife was advised to make daily visits to each housewife to assist in activity classification. The Kofrani-Michaelis respirometer was used to determine individual energy expenditure for each task. Daily energy expenditures were calculated by multiplying the energy cost for each task/unit time by the number of minutes spent at each task.

In Table I the mean daily energy expenditure for 28 days is compared with the same person's recall of a typical day's energy expenditure. There were large variations in energy expenditure from day to day in the same individual, but over the course of 28 days the differences were very small and the mean ± one standard deviation was similar to the 24-hour recall information for each of the six subjects. For these subjects the 24-hour recall of typical activities was a good measure of daily energy expenditure over a period of a month if the recall information was combined with individual assessment of energy expenditure for each activity.

Disease from Monkeys
Str.—Your leading article (30 December, p. 758) cautions against the use of tissues from wild animals as the source of substrate in the preparation of vaccines and will no doubt retard or halt the production of virus vaccines for some time. If this was the purpose of your article then it seems assured of success. But is it only in regard to the substrate that you see the need for caution? Can we safely assume that the potential danger of the virus inoculated into the substrate, and is the view that some forms of immunization are both leukaemogenic and carcinogenic false? A clear answer from a single knowledgeable scientist would be a great help to your readers who must decide whether to risk influenza, measles, and poliomyelitis, or give, and perhaps take, the appropriate prophylactic vaccine.—I am, etc.,

Department of Pathology, M. D. Insts., Prince Charles Hospital, Brisbane, Australia.

References

TABLE I—Energy Expenditure (Kcal) of 6 Obese Women by 24-hour Indirect Calorimetric Measurement

<table>
<thead>
<tr>
<th>Subject</th>
<th>24-hour Recall</th>
<th>28-day Mean Energy Expenditure*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2,428</td>
<td>2,277 ± 163</td>
</tr>
<tr>
<td>2</td>
<td>1,871</td>
<td>2,005 ± 159</td>
</tr>
<tr>
<td>3</td>
<td>2,990</td>
<td>(2,971 ± 2,790)</td>
</tr>
<tr>
<td>4</td>
<td>2,671</td>
<td>(2,611 ± 3,142)</td>
</tr>
<tr>
<td>5</td>
<td>3,055</td>
<td>(2,930 ± 2,950)</td>
</tr>
<tr>
<td>6</td>
<td>2,522</td>
<td>(2,356 ± 3,728)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1,317 ± 3,766)</td>
</tr>
</tbody>
</table>

* Mean ± standard deviation (range).

On the day of the initial interview the obese housewife was also asked to record her previous day's dietary intake, and to estimate whether or not this was typical of her usual diet. Subsequently each housewife weighed and recorded all food and beverage intake for 14 days, and an observer visited her daily to assist in problems of weighing and recording. The mean daily energy intake was compared with 24-hour estimates, as shown in Table II. The day-to-day variations in energy intake were considerably larger than in the case of expenditure, and in five of six cases the standard deviation was 20% of the mean. This was probably due in part