formative. For journeys of under eight hours tourist-class tickets are booked; for longer periods first-class travel is provided—not for the free drinks but for the greater leg room and seating comfort so that the company's representatives can, on arrival, meet their tasks with greater efficiency.—I am, etc.,

WILLIAM GISSANE

Road Injuries Research Group,
Birmingham Accident Hospital,
Birmingham

Euphoriant Elixirs

SIR,—A recent unpublished survey of more than 90 teaching and district general hospitals throughout the United Kingdom demonstrated considerable variation in the composition of "euphoriant (or Brompton) cocktails" used for the relief of pain and suffering in terminal cancer. Differences existed both in the active constituents and in the vehicle in which they were dissolved. Some included morphine, some diamorphine, the majority cocaine, while in others chlorpromazine or prochlorperazine was added. In a number of instances both morphine and diamorphine were included, though the pharmacological rationale for this is not easy to see. The variation in the vehicle was even greater—for example, the alcohol content ranged from 0 to 40% and was frequently replaced by gin, whisky, or brandy, while the syrup content varied from 0 to 50%, with honey often substituted for sucrose. The chloroform content was equally diverse.

In the light of this, the introduction of a standard diamorphine and cocaine elixir in the new edition of the *British Pharmaceutical Codex*,¹ which becomes operative on 1 December 1973, must be considered a step in the right direction. Yet information about its keeping properties is minimal—the *B.P.C.* simply states that it ought to be freshly prepared and, if chlorpromazine is added, it should be protected from the light.

At St. Christopher's Hospice we have studied the stability of diamorphine in an almost identical elixir.

	St. Christopher's	B.P.C.
Diamorphine hydrochloride	10 mg	10 mg
Cocaine hydrochloride	5 mg	10 mg
Ethyl alcohol	1.25 ml (95%)	1.25 ml (90%)
Syrup (B.P.)	2.5 ml	2.5 ml
Chloroform water to	10 ml	10 ml

We examined not only the effect of time but also the effect of light and temperature and of varying the alcohol and sugar content. Assay was by visual assessment of thin-layer chromatographic plates by two independent observers.² As preliminary assays indicated that the cocaine had no effect on the rate of degradation of diamorphine it was subsequently omitted from the mixture. After eight weeks at 22°C, 10% of the diamorphine had hydrolysed to *O*⁶-monoacetylmorphine (that is, 10% = 8 weeks). *O*³-Monoacetylmorphine and morphine were not detected. Storage at higher temperatures, 30° and 37°C, accelerated hydrolysis whereas at 4°C the rate was halved. There was no difference between replicates stored in the dark and those stored in diffuse light. The substitution of honey or an aldose sugar for sucrose increased the rate of hydrolysis. Doubling the concentration of alcohol resulted in a prolonged $t_{10\%}$, whereas halving it had the opposite effect. Further, and perhaps most important, the inclusion of chlorpromazine or prochlorperazine shortened the $t_{10\%}$ to two weeks. These results are summarized in the table. Finally, in an attempt to determine the effect of gastric acid and body temperature, diamorphine was added to simulated gastric fluid at 37°C.³ A greatly increased

Approximate $t_{10\%}$ of Various Diamorphine and Cocaine Elixirs

Elixir	Temperature (°C)	10% (Weeks)
Standard	22	8
"	4	>24
"	30	4
"	37	2
Double-strength alcohol (24%)	22	10
Half-strength alcohol (6%)	22	6
No syrup	22	10
Honey	22	6
Glucose	22	6
Prochlorperazine (1.25 mg/10 ml)	22	2
Chlorpromazine (6.25 mg/10 ml)*	22	2

*Half the recommended strength.

rate of hydrolysis was noted, but even so after four hours more than 75% of the diamorphine remained.

It is, of course important to remember that a 10% loss of diamorphine does not mean a 10% loss of analgesic potency. If *O*⁶-monoacetylmorphine is regarded as equipotent with morphine the loss of potency at the $t_{10\%}$ will be only 3%.⁴ For an elixir usually prescribed in quantities sufficient only for one or two weeks a shelf-life of this length is more than adequate. Even so, our results suggest it may be unwise to follow local tradition and, for example, exclude alcohol completely. Similarly, an increase in the syrup content to 50% might adversely affect the keeping properties of the elixir, which would be more marked were honey substituted for sucrose. The considerable hydrolysis-accelerating effect of phenothiazines must also be emphasized.

The present elixir represents the end point of an evolutionary process that began in the last century when morphine began to replace opium in medical practice. However, some patients find an elixir of this nature unpalatable owing either to its "sickly" taste or to its alcoholic "bite." Thus there would seem to be a good case for reviewing the need for such an elaborate vehicle for orally administered diamorphine. Therefore, while welcoming the attempt to standardize opiate-containing elixirs, we would suggest that there is need for further studies to determine the best formulation in terms of both shelf-life and patient acceptability. In addition, and perhaps even more fundamental, there is a need to evaluate objectively the contribution of the cocaine to the pharmacological effect of the mixture.—We are, etc.,

ROBERT G. TWYCCROSS

St. Christopher's Hospice,
London S.E.26.

R. A. GILHOOLEY

Medicinal Products Subdivision Laboratory of the
Government Chemist,
London S.E.1

¹ *British Pharmaceutical Codex*. London, Pharmaceutical Press, 1973.

² Twycross, R. G., and Gilhooley, R. A. In press.

³ *United States Pharmacopeia*, 18th Revision. Easton, Pa., Mack Publishing Company, 1970.

⁴ Twycross, R. G., *British Journal of Pharmacology*, 1972, 46, 554P.

Are PUFA Harmful?

SIR,—Your leading article under this title (6 October, p. 1) concluded with the words: "It is disturbing that we consume commercially processed foods without considering what they contain, how they are made, or what harm they may do."

Pertinent to this exclamation and to the subject which provoked it is the current vogue of so-called "coffee whiteners," which, as it happens, were featured in the issue of *Which?* for November 1973. These are convenient prepacked substitutes for milk or cream, generally containing glucose syrup solids and vegetable fat, which forms about 85% of the total, usually along with sodium caseinate. When these products are offered for sale in Britain the composition must, by law, be stated on the container. It happens that at least two of the principal British airlines dispense their whiteners in flight packets labelled "creamer," with no clue to the contents at all. To me, this verges on the positively misleading, though our British laws hardly impinge on this exercise because (1) the product is not actually sold and (2) it is doubtful whether the Food and Drug Act applies to aircraft in flight, frequently on overseas flights.

Nevertheless, this is surely a far from commendable practice and, if only for reasons of public health and welfare, it is regrettable that these corporations and organizations are not enlightened enough to see that what they do is as much in conformity with the meaning of the law as it is with statutory enforcement.—I am, etc.,

ROY GOULDING

New Cross Hospital,
London S.E.14

False Interpretation of Fetal Heart Monitoring

SIR,—Mr. I. L. Craft and others point out (29 September, p. 694) the possibility of a fetal scalp electrode erroneously recording the maternal heart rate. We would like to report an even more bizarre instance in which the fetal scalp electrode recorded the fetal and maternal heart rates additively.

The electrode was spiral and was made by Messrs. Rocket. The fetal heart rate was recorded continuously using a Sonicaid FM 2 machine. The recorded fetal heart rate apparently rose after 11 hours of recording from 150 beats/min to 220 beats/min.

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Contractions

However, auscultation of the fetal heart rate simultaneously, using a Sonicaid D 205 fetal pulse detector, showed that the fetal heart rate was in fact 140 beats/min. The maternal heart rate was 80 beats/min. Adjustment of the sensitivity control on the FM 2 machine had no effect on the artefactual recording.

We would advocate regular auscultation of the fetal heart when a fetal scalp electrode

is being used, so as to ensure that the recording is in fact of the fetal heart rate alone.—We are, etc.,

P. TIVY-JONES
A. KENNEY
R. D. DE VERE

Obstetric Department,
Westminster Hospital,
London S.W.1

Confidentiality

SIR,—We read about the confidentiality of the computer, but I feel we need to look at things much more human before we start on mechanization.

I have this morning received a letter from the appointments clerk to a hospital psychiatric outpatient department in which she states that a patient has an appointment to see a psychiatrist and that a note of any treatment she was having would be beneficial. The enclosed envelope is addressed to "The Psychiatric Department." I do not know what my protection society would have to say about this.

During the past month I was asked to send to the "organizing secretary" of the local mass radiography unit details of the diagnosis and subsequent treatment of a patient who had had an abnormal miniature radiograph. In this case my protection society was very doubtful that I should disclose this information to a layman.—I am, etc.,

C. LIPP

Sheffield

Methyldopa and Depression

SIR,—I read with interest the report by Mr. C. J. Bulpitt and Professor C. T. Dollery (27 October, p. 232) on side effects of hypotensive drugs and the subsequent correspondence which it aroused on the existence of methyldopa depression as a specific entity.

For the past three years I have been measuring mood changes in a group of new hypertensive referrals to the Sheffield Hypertension Clinic, using a standardized mood-rating questionnaire¹ which has been shown to be both valid and reliable. Patients completed this questionnaire at their first clinic attendance and at six-weekly intervals for a one-year follow-up period and the scores were recorded graphically.

For purposes of statistical evaluation, the patients were divided into two groups: (1) those taking adrenergic blocking agents, and (2) those taking reserpine or methyldopa. There was no significant difference in the prevalence of depression occurring in the two groups, but there was a statistically significant difference in the pattern of depression. The depressed patients on the adrenergic-blocking drugs reported themselves as mildly chronically depressed throughout the period of study. Patients who became depressed while taking reserpine or methyldopa showed a transient depressive swing within the first few months of starting the drugs. It is postulated that the two patterns of depression have differing aetiologies. Patients taking adrenergic-blocking drugs are likely to be more severely hypertensive and suffer more medical and social complications of their illness than the less severely hypertensive. This pattern of depression can be regarded as an "illness effect"

rather than a direct effect of the drugs. On the other hand, the transient depression of the hypertensive on methyldopa or reserpine is in keeping with the known amine-depleting effect of these drugs. Other factors shown to be of significance in the aetiology of both patterns of depression were personality structure and evidence of previous psychiatric disorder.

I would like to suggest that the amine-depletion pattern of depression still exists, but to a lesser degree than a few years ago, owing to a greater awareness of the problem, but there is an increasingly large group of more severe hypertensives suffering chronic depression, often unrecognized, resulting from the effects of a chronic illness on a particularly vulnerable personality. Further research on this subject is in progress.—I am, etc.,

WENDY BANT

Whiteley Wood Clinic,
Sheffield

¹ Abraham, H. C., Kanter, V. B., Rosen, I., and Standen, J. L., *British Journal of Psychiatry*, 1963, **109**, 286.

Explaining to Patients

SIR,—Cancer, writes Professor W. A. Mackey (3 November, p. 297), is a "frightening, primitive word. . . . It is a pity that we do not have readily available a less horrifying name." When discussing the effect of words upon patients¹ I suggested the term growth. It is less frightening and allows discussion of different types of growth and their prognosis, starting with benign ones.

What to tell the patient is a big problem in many branches of medicine. So many diagnoses carry a halo of fear with them. Angina is associated with the thought of sudden death, a point that will be emphasized to the victim by many kind friends. Arthritis is linked with the worry of being crippled; mental or nervous symptoms with the fear of going mad. The word thrombosis, even if referring to a thrombosed pile, may strike terror, being misinterpreted as implying the same seriousness as coronary thrombosis. Perhaps someone should compile a glossary of diagnostic labels which may help to shield the patient from unnecessary and often unfounded anxiety. My contributions would be: heart attack instead of coronary thrombosis, Parkinsonianism and not paralysis agitans, rheumatism or "fibrositis" instead of arthritis (unless the doctor has time to explain the various and often harmless implications of the word), seizure rather than stroke, and growth or tumour instead of cancer.—I am, etc.,

CLIFFORD HAWKINS

Queen Elizabeth Hospital,
Birmingham

¹ Hawkins, C. F., *Speaking and Writing in Medicine: The Art of Communication*. Illinois, Thomas, 1970.

Medical Education in Italy

SIR,—Professor Alberto Zanchetti's account of Italian undergraduate and postgraduate medical training (17 November, p. 409) may appear "excessively gloomy" but is, in the Italian context, very optimistic. From experience gained and the information available to me during three months spent in Italy as a student last winter it appears that certain

facts and the translation of some Italian terms in the account are very misleading.

The official government estimate for the number of medical students for the year 1972-3 was 120,000, a third of whom were in the first year studying "A-level" subjects, and this represents a tripling of medical student numbers in four years. I agree with Professor Zanchetti's statement that ward round teaching is impossible, but would go further to say that for the vast majority of students it is non-existent. He refers to a six-month "internship." However, a more precise translation is "apprenticeship." The "apprentice," who may be a student yet to take university finals, is unpaid and is required only to be present at, but not involved in, routine hospital procedures. Even the postgraduate training does not put the "doctor" in the position of a houseman.

Worthwhile reform is unlikely since the last governmental reforms were too late and, from a British point of view, retrogressive. Therefore in arriving at future agreements and reviewing the peculiar existing arrangement the Italian medical training system should be much more thoroughly scrutinized.—I am, etc.,

MARIO BROWN

King's College Hospital Medical School,
Denmark Hill,
London S.E.5

Medically Oriented Language Courses

SIR,—Professor J. D. E. Knox asks for suggestions for medically oriented language courses (8 September, p. 546).

It is already the policy of the Junior Members Forum that such language courses should be provided, and a motion concerning this subject was carried by the meeting held at Coventry earlier this year.

From a personal aspect, as a medical officer in the armed Forces, I would find such courses, especially in German, extremely useful. Owing to the pressure on the majority of doctors' time, these courses should be available through postal means. There should be two courses for each language—one for the beginner and one for the doctor who already has a working knowledge of the particular language. These could be available on tape cassettes with a short explanatory booklet accompanying each cassette.—I am, etc.,

M. J. G. THOMAS

Chairman,
Junior Members Forum, B.M.A.

Colchester

Diabetic Pregnancy

SIR,—Thank you for the excellent survey of diabetic pregnancy by Dr. N. L. Essex and others (13 October, p. 89). It seems to me, however, that there was one important omission—namely, the extreme danger of continuing insulin in unchanged dose during and directly after delivery. I realize that this is well known to the initiated, but I take it the article was aimed largely at the uninitiated.

For reasons not known to me, for one, two, or even three days after delivery a normally insulin-requiring woman may need no insulin at all and may easily be precipitated into hypoglycaemia. Once one has