skilled psychotherapists. A patient of my own who has been referred for L.S.D. treatment with great success may have therapy terminated soon.

It is difficult to understand how a reputable drug company such as Sandoz can act in this way without consultation with the profession, who have enjoyed free access up until now to the use of any drug which benefited their patients.

There has been little evidence of misuse of this drug in Great Britain in comparison, for example, with Drinamyl and dex-amphetamine, both of which are still freely available to doctors. I believe and hope that this petulant and ill-considered decision may be revoked, failing which action there can be little doubt that much more damage will be done to the public image of Sandoz than could ever have resulted from misuse of a drug which in any case is now in the U.S.A. freely available from illicit sources.—I am, etc.,

Hornchurch, Essex.

S. E. BROWNE.

** We showed this letter to Sandoz Products Ltd., and print below a reply from Mr. J. P. Christen, managing director.—Ed., B.M.J.

SIR,—Dr. Browne makes some fair points in his letter, though at the outset one cannot agree that a valid comparison exists between the amphetamines and L.S.D.-25, in view of their widely differing effects, particularly in considering the potential dangers of unsupervised short-term use of L.S.D.-25 to both the individual and others.

However, the following points put into perspective the circumstances of the cessation of the distribution of lysergic acid diethylamide (L.S.D.-25) by Sandoz throughout the world. Since its introduction in 1954, L.S.D.-25 has not, as Dr. Browne suggests, been freely available to the medical profession. Its distribution has been limited essentially to psychiatrists working in recognized psychiatric institutions and to certain basic research workers. This was done voluntarily at the company's instigation but with the agreement of the Home Office. Latterly, such control has been fraught with difficulty, and has met with considerable opposition in some quarters where it was felt that traditional responsibilities were being usurped. Following the expiry in 1963 of patents to L.S.D.-25, other sources of this material have become legitimately available in the United Kingdom. Clearly their presence completely negates the rigorous self-imposed control of distribution which we exercised.

In the United States many of the recurring reports of illicit use of L.S.D.-25 mention Sandoz as the only official source of this material. It has become clear to us that the impression is developing that the company is in some way involved in the black-market traffic of this compound, and more recently a similar trend is occurring in the United Kingdom. In the climate of present public opinion towards the pharmaceutical industry a reputable house cannot afford such recurring imputations. We believe that those who have criticized Sandoz for ceasing to distribute L.S.D.-25 would not hesitate to take similar action if their names were repeatedly being associated, however obliquely, with illicit use.

Very little L.S.D.-25 has, in fact, been used in the United Kingdom, this in itself being an indication of the lack of general acceptance by psychiatrists of this material as an irreplaceable therapeutic agent. L.S.D.-25 has always been totally uneconomic to Sandoz, and its continued availability up to the present has been as a service. However, to expect a house to maintain a preparation whose therapeutic usefulness is open to question, to risk its good name, and to carry the problem of control of distribution in the context of increasingly widespread misuse is, we believe, quite unjust. Nevertheless, the company is prepared to cooperate wholeheartedly in any arrangement whereby distribution is placed in the hands of an appropriate authoritative body. In the United States, for example, the National Institute of Mental Health has been offered without charge, and has accepted, a supply of hallucinogens for distribution at its discretion; thus supplies to recognized workers will be protected. Although an exactly comparable institute does not exist in the United Kingdom, negotiations are in progress with the authorities concerned in order to determine whether similar arrangements can be made for this country.—I am, etc.,

J. P. CHRISTEN,
Managing Director.

Sandoz Products Limited,
London W.1.

Treatment of "Refractory Obesity" with a Diet of Five Meals a Day

SIR,—Dr. J. F. Munro and his colleagues (16 April, p. 950) report that a group of obese patients who adhered strictly to a 1,000 kcal. diet lost an average of 4.4 kg. in weight over a 12-week period, representing an average daily weight loss of 52 g. Even if this reduction could be explained in terms of net catabolism of pure fat with a "calorie value" of about 9.0 kcal./g., it would account for a "calorie deficit" of only 468 kcal., implying an average "calorie expenditure" by the patients of $1,000 + 468 = 1,468$ kcal./day—i.e., 1.0 kcal./minute, or an average oxygen consumption of about 200 ml./minute. (If the fall in weight was due to loss of "obesity tissue," comprising protein and water as well as fat, the implied "calorie deficit" and oxygen consumption would be even less.) A similar calculation¹ can be made for a group of obese patients who adhered strictly to 1,000 kcal. diet in the form of two meals per day. Both these studies imply an apparent "calorie expenditure" by the patients who successfully completed the trial of no more than the expected basal level, thus making no allowance for the energy of muscular contraction inseparable from the profession of housewifery. Where does the extra energy (or mass) come from?

The general problem of resistance to weight loss may be viewed in three ways: (1) The veracity of obese patients with regard to their eating habits may be questioned. While such scepticism may sometimes be justified, its universal application is appropriate neither to good science nor to happy doctor-patient relationships.

(2) Failure to lose weight predictably under conditions of apparent negative energy balance is sometimes attributed to retention of mass in its lowest energy state as "water," or to lowering of energy expenditure or both.

Such adaptations cannot account for the long-term persistence of the obese state. Nor can they be said to have achieved quantitative validity without assessments of total long-term energy loss to the environment coupled with such simultaneous *independent* studies of change in body composition as measurements of body volume and density.

(3) An alternative to the conventional wisdom is to postulate that environmental energy-mass relationships of open living systems (particularly man) may sometimes be improbable and unpredictable (i.e., anti-entropic), whereas these relationships with regard to closed systems (e.g., the bomb calorimeter) are always probable and predictable (i.e., entropic). Such a view is bound to evoke profound scepticism, since the sole procedure of Western science is committed to looking in the direction of certainty rather than uncertainty.

Unless we are to prefer the evidence of our doctrines to that of our senses, an examination of "refractory obesity" and its mirror image "refractory leanness" may be seen to present an uncomfortable challenge to traditional concepts of entropy in biological systems no less than do observations in particle physics and radio-astronomy question traditional ideas on the properties of matter. Or is even "refractory" obesity "simply a question of calories"?—I am, etc.,

S. B. FURNASS.

Canberra,
Australia.

REFERENCES

- ¹ Furnass, S. B., *Lancet*, 1964, 2, 910.
- ² Seaton, D. A., and Duncan, L. J. P., *ibid.*, 2, 612.

Safety of Oral Contraceptives

SIR,—In 1964 the Committee on Safety of Drugs decided to review all the toxicological evidence available from experiments on animals carried out by manufacturers of the oral contraceptives which were on sale in the United Kingdom. All the manufacturers involved complied with the committee's request to supply such evidence as they had obtained.

All oral contraceptives at present on sale in the United Kingdom contain as their oestrogenic component either mestranol or ethinyloestradiol.

Having examined the evidence made available to them the committee conclude that mestranol, when administered in high doses and for prolonged periods to rats, causes liver damage which is sometimes severe, including on occasion the development of hepatomata. Adequate experiments have not been carried out on other species of animals.

At present it is impossible to be sure whether ethinyloestradiol has similar effects, as it has not been as thoroughly investigated in animals as mestranol.

The relevance of these findings in rats to the prolonged use by women of oral contraceptives is uncertain. The liver of the rat is notoriously liable to show this kind of reaction, and there is no evidence in the United Kingdom that the incidence of hepatic disorders in women taking oral contraceptives is increased. On the other hand, women have not been taking oral contraceptives for a comparable proportion of their life span, though a group in Puerto Rico have now been taking mestranol for nine years without apparent detriment.

For the future the committee are insisting that all new oral contraceptives and their active constituents should be investigated, before they are made generally available, for possible long-term toxic effects as a result of their administration to animals for most of their life span. Evidence of this nature from experiments in rats and mice will also be required by 30 June 1970 for all oral contraceptives already on the market in this country.

In the meantime, since these drugs have a therapeutic as well as a social value and are obtainable in the United Kingdom only on a doctor's prescription, the committee feel that it would be unjustifiable to deny the public the benefit of these drugs on the present evidence—I am, etc.,

D. A. CAHAL,
Medical Assessor.

Committee on Safety
of Drugs,
London S.W.1.

Rubella Syndrome

SIR,—In view of the importance of giving informed clinical advice and of the immunological principles involved in early pregnancy complicated by rubella, I should like to add to the report by Dr. R. M. Forrester and his colleagues (4 June, p. 1403) a further instance of twin pregnancy where the mother had clinical rubella in early pregnancy and one twin was born and remained healthy in every way.

The other infant, seen at a few months, had a congenital heart lesion and a well-developed cataract in one eye only. The other eye showed typical "rubella" pigmentary changes in the retina but no lens opacities of consequence.

Both twins had spent some weeks in oxygen.

Though no serological testing was done, it seems that this case is analogous to that reported by Dr. Forrester and his associates but with the additional feature that one eye in the affected twin showed a different lesion from the other.—I am, etc.,

London W.1.

P. A. GARDINER.

Treatment of Clubfoot

SIR,—My knowledge of orthopaedic surgery is insufficient to enable me to enter the controversy concerning the treatment of clubfoot arising from the article by Mr. N. E. Shaw (30 April, p. 1084), but I would like to make some purely personal comments, and, at the same time, put a question to the experts.

My second daughter was said at the time of her birth to have bilateral talipes equinovarus, and indeed, when I saw her a few hours after birth, the soles of her feet were in complete apposition. This, however, did not cause me any concern, as I found that I could put both feet into the normal position using very little effort.

I then discovered that the local orthopaedic surgeon had already been informed of my daughter's condition, and, in addition to physiotherapy during her short stay in hospital, this "talipes" was treated for 18 months by the weekly application of adhesive strapping to pull the feet into extreme eversion.

At the present moment the child is now 8 years of age and in spite of three years'

dancing lessons and encouragement at home to use her leg muscles properly both feet, when she is standing relaxed, roll out, with the result that she is virtually resting on the medial aspect of the calcaneum and navicular. The condition appears to be almost the complete reverse of talipes equinovarus, and I personally wonder whether this is the result of over-enthusiastic treatment as a baby. The question I would like to put to the experts engaged in the present controversy is whether they would have treated my daughter at all, as one of Mr. Shaw's criteria for diagnosis was that the deformity must not be correctible by manipulation alone.

I feel perhaps that all of us can be too enthusiastic concerning treatment, and most of us probably tend to overtreat our patients. If the present condition of my daughter's feet is the result of over-enthusiastic treatment as a baby I would like this possibility to be aired in your columns in order that other children may not be similarly affected.—I am, etc.,

PATHOLOGIST.

Gastric Lavage

SIR,—The place of gastric aspiration and lavage in acute poisoning has long been in dispute. The paper by Dr. Henry Matthew and his colleagues (28 May, p. 1333) on this subject therefore appeared very welcome in that it laid down definite indications for the employment of gastric lavage. Perhaps it appeared all the more acceptable in that it proposed a compromise between the two extreme schools of thought on this subject.

There are, however, certain inconsistencies which should be pointed out.

The first is in their selection of 10 tablets as being the upper limit at which lavage is considered unnecessary, while a recovery of 200 mg. of barbiturate appears to be considered a "successful" lavage. If these 10 tablets were, say, amylobarbitone sodium 200 mg., the ingested dose would of course be 2 g., and recovery of a quantity greatly in excess of 200 mg. might be expected. (In only two of their series was more than 2 g. recovered.)

Secondly, a technical anachronism appears in the patient who was said to have ingested 200 aspirin tablets (presumably 5 g. tablets—that is, a total dose of approximately 67 g.), of which 20 g. were recovered. The blood salicylate in this patient was 67 mg./100 ml. According to the normal salicylate excretion curve,¹ one would not expect the peak level of blood salicylate to have been more than 20% greater than this, say, 80 mg./100 ml., which could be calculated as a total body salicylate of 12 g.¹ Conversely, had 47 g. been absorbed a salicylate level up to 320 mg./100 ml. might have been expected. (These figures apply to a 70-kg. man.)

The most likely cause of this discrepancy would appear to be the history of the number of tablets ingested, reflecting the scepticism with which one should regard the history of a patient who has poisoned himself.—I am, etc.,

Worcester Royal Infirmary, M. LEE JONES.
Worcester.

REFERENCE

- Cumming, G., Dukes, D. C., and Widdowson, G., *Brit. med. J.*, 1964, 2, 1033.

Abortion Law Reform

SIR,—We understand that Mr. David Steel, M.P. for Roxburgh, Selkirk, and Peebles, is to introduce a Bill in the House of Commons to reform the law on abortion.¹ It will be similar to that already approved by the House of Lords—grounds for legalized abortion being the health of the mother, the results of rape, and the capacity of the mother to care for the child.

The B.M.A. has appointed a committee to consider the subject of therapeutic abortion and to prepare a comprehensive report. Medical opinion has always been the final court of appeal in matters related to health; yet in this instance, with unseemly haste, attempts are being made in both Houses to rush through legislation before the B.M.A.'s findings have been published.

The report is still awaited,² and indeed was scarcely referred to at the third reading in the Lords; yet the B.M.A. Council had been asked by Lord Silkin before the committee stage for its comments on his Bill and had replied that the profession felt strongly that legislation ought to wait until our committee had had an opportunity to study the matter thoroughly.

Legislation can be disastrous if it is ill-considered. Attempts to tidy up existing law, as in the case of betting and gambling, have proved in the last few years liable to proliferate what the law sought originally to discourage. On a matter so far reaching in its effects on the lives of the nation's mothers and on children yet unborn, surely far more than hurried debate following a private Member's Bill is required. It calls for a Royal Commission.—We are, etc.,

ROBERT BROWNE.
DAVID L. KIRK.

Birmingham 30.

REFERENCES

- Brit. med. J.*, 1966, 1, 1430.
- Ibid.*, *Suppl.*, 1966, 1, 19.

Ointments and Babies

SIR,—Some years ago I dispensed a bottle of calamine lotion for a man with sunburned arms. As they were red and tender, I thought to prevent undue drying and scabbing by substituting castor oil for the glycerin. Two days later he was back to know whether the lotion could possibly have caused loose and frequent motions: and I had to admit that possibly it could.

During the war in a local war nursery we had a couple of babies some months old with red bottoms due to frequent green motions, following an epidemic of diarrhoea, which nothing seemed to relieve. I happened to go in one day when they were being "tailed" and noticed the nurses slapping on ung. zinc. et ol. ric. Remembering my friend with the sore arms, I suggested that it be omitted, and within a very few days the symptoms cleared.

This common nursery remedy is not so lethal to infants as calomel teething powders (16 April, p. 977; 30 April, p. 1110), but I am certain that it does enough harm to justify its banishment from the pharmacopoeia (and our dispensaries and nurseries). It can do little good to a normal skin, but where there is soreness can be absorbed to complete a vicious circle.

Could we not suggest to our nursing associates that zinc and cod-liver oil ointment