substances for medical and scientific purposes is indispensable and that their availability for such purposes should not be unduly restricted"

In contrast, part of Article 7 states that in respect of substances in Schedule I, the parties shall: "(a) prohibit all use except for scientific and very limited medical purposes by duly authorized persons, in medical or scientific establishments which are directly under the control of their Governments or specifically approved by them; (b) require that manufacture, trade, distribution, and possession be under a special licence or prior authorization; (c) provide for close supervision of the activities and acts mentioned in paragraphs (a) and (b); (d) restrict the amount supplied to a duly authorized person to the quantity required for his authorized purpose; (e) require that persons performing medical or scientific functions keep records concerning the acquisition of the substances and the details of their use, such records to be preserved for at least two years after the last use recorded therein"

When a country ratifies this new convention the responsibility for control and all of the legal and administrative interpretations will undoubtedly be vested in the national government. Moreover—if history is any guide—this power and authority will be given to governmental officials, whose prime interest is in control of the drugs—with relatively low priority given to science. For example, our sad experience with cannabis, whereby a tremendous hedge of legal and administrative controls virtually precluded the development of bona fide scientific investigations, is a classic example of an unbalanced system that should never again be allowed to develop. Admitting the need for appropriate measures of control through the national government, the major policy questions that must be clarified are: Does the government by virtue of its responsibility for the control of drugs also retain control of scientific investigations that require supplies of the controlled drugs for research purposes? Who is going to determine the kinds of research and the priorities—the control officials or the scientists?

An appropriate answer to these questions is crucial to the development of responsible scientific work. Moreover, in the case of the United Kingdom they should be debated and settled before the new international convention is ratified by Parliament. In my opinion, the determination of research priorities and investigations should be vested in the appropriate scientific body, not in the administrative officials.—I am, etc.,

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¹ United Nations, *Conference for the Adoption of a Protocol on Psychotropic Substances*, E/Conf. 58/6, February 1971.

Camphorated Oil

SIR,—We feel that the "over the counter" purchase of drugs on the market gives easy access to some very dangerous pharmaceutical preparations. Recently a man was admitted to the Regional Poisons Unit following an attempted suicide with an overdose of 150 ml of camphorated oil (B.P.

20%). The potential lethal dose in an adult is 20 ml. He was in peripheral circulatory shock and severely dehydrated owing to vomiting. After immediate resuscitation gastric lavage was carried out under general anaesthesia using a cuffed endotracheal tube. Soon after admission he developed three attacks of severe and prolonged grand mal, which subsided with intravenous diazepam. Following intensive supportive treatment he was fit and well 36 hours later. To the best of our knowledge this is one of the highest doses to be survived.

Camphorated oil has in the past been used for the purpose of abortion because the substance crosses the placenta. It causes death due to respiratory depression. There is no specific antidote. However, haemodialysis utilizing soyabean oil has been employed in the past.

In this day and age camphorated oil has lost its former medical indications. Its danger as a poison by far outweighs its usefulness, if any, and we do not think that camphorated oil now has a place in the open market.—We are, etc.,

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Pharmacologically Active I.U.D.s

SIR,—At a time when concern at the increase in iatrogenic disease is both opportune and fashionable I should like to draw attention to and deplore a recent new development in contraception. This is experimentation with pharmacologically active intrauterine devices, notably those wound with metallic copper wire.

The rationale behind their development is that, whereas for inactive devices pregnancy rates appear to be roughly proportional to surface area and large devices carry compensating disadvantages, copper ions have a directly contraceptive effect, so that devices can be kept small to minimize other inconveniences, leaving the copper to take care of the risks of pregnancy.

Where a major gain in efficacy is at stake clearly we must be ready to accept a temporary increase in uncertainty regarding the safety of a new device or drug. No progress is possible otherwise. In this instance, however, this is not the case. The more advanced of the inert I.U.D.s (the Dalcon shield, for example) have, if the results of trials so far available are a guide, rates of pregnancy, expulsion, and medical side-effects low enough so that no improvements could be classified as major advances. Improvements should of course be sought continually, but there must be a limit on their price. Pharmacologically active I.U.D.s introduce a new dimension of unknown long-term hazards, and I suggest that this is too high a price for the small gains remaining to be made.

We know nothing of the properties of the endometrium as a route for medication nor of the effects of continuous exposure to a weak solution of copper salts on it, on myometrium or cervix. We have no experience of intermittent massage with such a solution of vagina, glans penis, and urethral meatus. We shall have to await with uncertainty the outcome of pregnancies that will take place with the device in situ and to speculate on the performance of a possibly

damaged myometrium during labour even in pregnancies occurring after its removal. Allergic reactions, as with the topical use of copper salts elsewhere, are to be expected. An added source of anxiety regarding carcinogenesis, this time in both male and female genital tracts, will have to be studied for 20 years or more.

In addition, it should be recognized that the advantages of the active I.U.D.s are fairly gold. With present copper devices, after a relatively short period the active substance becomes exhausted or inactivated, and removal and reinsertion is necessary. However, I understand that promising work is in progress to extend the life time of the device. Until this has been achieved the application of copper I.U.D.s to mass programmes in developing countries is likely to give rise after a short period to unacceptably high pregnancy rates. The difficulties and costs of attempting to arrange for regular renewal of all I.U.D.s in such settings are virtually insurmountable.

The introduction of pharmacologically active I.U.D.s is gratuitous *furor medicandi*. I suggest we should continue to have confidence in the steady progress being made towards the perfection of inert devices and have nothing to do with this complex, hazardous, and unnecessary new industry.—I am, etc.,

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Phenformin Overdose

SIR,—Phenformin is an oral hypoglycaemic agent related to the biguanide group and is in increasing usage. In 1969 156,000 National Health prescriptions for phenformin were made.¹ Combined with an oestrogen it has recently been used experimentally in fibrinolytic therapy.² One of the presentations of phenformin is as a 50 mg slow-release capsule and the therapeutic range is up to 3 capsules daily.

On 31 August a white male aged 30 years presented with collapse, having vomited about a pint and a half (800 ml) of altered blood, with fresh blood, during the evening and morning before admission. When examined he was in peripheral circulatory failure, but apart from some midline epigastric tenderness and fresh melaena stool in the rectum there were no physical signs.

During a medical examination for a job abroad 10 months before he was found to have glycosuria. Subsequent blood sugars were raised above normal and he was given soluble insulin. His insulin requirements were low and he was changed to phenformin 50 mg slow-release capsules and a 200 g carbohydrate diet.

Throughout the 6 months before admission he took his capsules according to his urine testing with Clinitest tablets. This meant he took 6–8 capsules per day (2–2½ times the maximum effective therapeutic dose). He lost 2 stone (12.7 kg) in weight in the four months before admission, and had anorexia with central low epigastric discomfort but no symptoms of gastric reflux. He dated the onset of symptoms from when he started phenformin. There was no previous history of peptic ulcer nor a family history.

He was transfused a total of four units of whole blood and treated medically with antacids, antiemetics, and analgesics. A

barium meal three days after admission suggested a shallow erosion high on the posterior aspect of the lesser curve of the stomach. Clinically there was no evidence of further bleeding. He was started on soluble insulin and timed blood sugars were in the range of 150-175 mg/100 ml.

Ten days after admission fiberoptic gastroscopy under intravenous diazepam³ was performed by one of us (R.H.F.). The gastric mucosa was studded with punctate areas compatible with a diffuse gastritis. The pylorus contracted normally with some bile reflux and no evidence of ulceration was seen.

At follow up in another hospital five and a half weeks later, our patient was well and free of any gastric symptoms. His diabetes had been difficult to manage, with hypoglycaemic attacks on soluble insulin 12 units in the morning, 8 units each evening, and a 200 g carbohydrate diet. He had gained 6.1 kg in weight.

We suggest that this patient's anorexia, epigastric discomfort and pain, weight loss, and ultimate gastric haemorrhage were due to overdosage with phenformin.—We are,

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¹ Personal Communication.

² Fearnley, G. R., Chakrabarti, R., and Evans, J. F., *Lancet*, 1971, 1, 723.

³ *British Journal of Hospital Medicine*, 1971, 6, (November Equipment Supplement).

Sickle-cell Trait and Altitude

SIR,—Dr. R. L. Green and others (4 December, p. 593) have misquoted and disputed a statement that appeared in my book.¹ The gist of the statement as originally made was that individuals with sickle-cell trait should not be allowed to enter a career involving flying, but that those aircrew, already trained and subsequently found to have sickle-cell trait, should be allowed to continue flying under medical supervision. Dr. Green and his colleagues substituted the word "patient" for "individual." Elsewhere in my book, which they have quoted, it is clearly stated that sickle-cell trait is an abnormality but not a disease; hence the term individual is appropriate and the term patient is misleading.

Dr. Green and colleagues then commented that "There seems to be little logic in this argument, which presumably advocates rejection of new entrants with the sickle-cell trait on the grounds that they may represent a safety risk. To retain those already trained, though superficially humane, seems to ignore this implied risk, and it is difficult to reconcile the two attitudes." They stated further that "It would seem most important that some firm, lasting, and internationally acceptable policy be defined on this subject by authorities responsible for licensing."

The logic in my statement is that unless and until there is sufficient evidence that sickle-cell trait is an important risk to flyers, and until an internationally acceptable policy is defined, it would be more sensible to recruit aircrew that do not have sickle-cell trait, but it would be unfair, wasteful, and foolish to ground experienced personnel. In all of the medical literature, including

that cited by Dr. Green and his colleagues, there is not a single case of mishap associated with sickling in a member of an aircrew.

Non-recruitment of aircrew with sickle-cell trait is a protection against arbitrary action by individuals who may have, or be influenced by, an attitude which was expressed by Dr. Green and colleagues. This attitude is shown in the statement that "The sickle-cell trait is no longer an important risk in most commercial flights, but if, as on certain African routes, a Negro traveller must take an unpressurized aircraft it would be wise to ascertain the sickling status before departure." The statement implies that it is chiefly in Africa that there are commercial flights on unpressurized aircraft, and that sickling is found only in "Negroes." These implications are refuted by data collected by other workers, some of which are cited by Dr. Green and his colleagues—that is symptoms arising after flights in America, and symptoms of sickling in a Sicilian youth.

The suggestion that "all passengers and aircrew who might have some form of sickle-cell disease should be screened before flight" is a *reductio ad absurdum* of the authors' attitude which is belied by a statement in the same paragraph of the article which reads in part "patients with sickle-cell anaemia seem to be able to fly in pressurized aircraft with little risk."—I am, etc.,

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¹ Lewis, R. A., *Sickle States: Clinical Features in West Africans*. Accra, Ghana Universities Press, 1970.

SIR,—In their article about the sickle-cell and altitude, Dr. R. L. Green and his colleagues suggest that "the only way to avoid this situation [of an in-flight incident] would be to set up a screening system available to all Negro travellers, which would detect not only the presence of sickle haemoglobin but specifically cases of undiagnosed sickle-cell haemoglobin C disease, sickle-cell thalassaemia, and the unusual clinically benign cases of sickle-cell anaemia with persistent splenomegaly."

What the authors do not seem to know is that not only Negroes have the sickle-cell gene.^{1,2} In some parts of Greece the prevalence of the sickle-cell trait is 30%;³ more than twice the prevalence in Northern Ghana. The forebears and descendants of these non-Negro possessors of the sickle-cell gene are, doubtlessly, scattered over America and Europe today. How can we identify them, from their external features, to thrust upon them the "benefits" of this advice? Surely the authors would not advocate that we deny some sections of the world community the benefits of their suggestion.

The authors come nearest to the heart of the problem of sickle-cell disorder when they state that, "Many patients from the sickle-cell clinic . . . often travel by air to the United States and an infarctive episode during flight has never been recorded." The disconcerting fact is that it is still not fully known why some "sicklers" have infarctive crises (or any other crises) out of the blue, at sea level, when they do have these crises. Conversely, it is still not fully known why some "sicklers" whom one might have expected to have crises at certain times in

certain circumstances remain quite asymptomatic.

If we applied the suggested screening test to all passengers (black and white) who disembark after a flight having had no symptoms whatsoever, it would be educative to know how many "sicklers" there would be among them. Also, if we screened all those passengers (black and white) who at disembarkation have had an in-flight symptom or incident, it would be educative to know how many "non-sicklers" there would be among them.—I am, etc.,

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¹ Choremis, C., Zervos, N., Constantinides, V., and Zannos, L., *Lancet*, 1951, 1, 1147.

² Choremis, C. et al., *Lancet*, 1963, 1, 907.

³ Deliyannis, G. A., and Tavlarakis, N., *British Medical Journal*, 1955, 2, 299.

Mortuary Technicians

SIR,—Dr. C. F. Ross (18 December, p. 751) raises a very valid point by drawing attention to the shortage of mortuary technicians. There are, however, other difficulties in coping with the anticipated increased number of necropsies carried out on behalf of H.M. Coroners.

In this county, for example, the bulk of the forensic work (some 750 necropsies a year) is at present undertaken by a freelance specialist forensic pathologist who travels to the various public mortuaries. If in future these necropsies are to be carried out by N.H.S. morbid anatomists, where is this work to be done? If at two or three hospital centres with adequate facilities, who will pay for the transport of perhaps 1,000 bodies a year over distances up to perhaps 80 miles (128 km) a round trip at present-day prices? If they are to be done, as at present, in public mortuaries scattered over the county, which measures some 75 miles (120 km) in length, who will be doing the N.H.S. work while the morbid anatomists are absent on their travels?—I am, etc.,

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Need for Asylums

SIR,—What does not seem yet to be recognized is the need for rest-houses, retreats, or (to use an old-fashioned word) asylums for ordinary everyday people when temporarily bowled over by the stresses and pressures of life today. In some areas there are "half-way" houses, in which ex-patients from mental hospitals can be rehabilitated and resocialized before re-entry into the rat-race; but, although there are scores of Samaritan "crisis" centres, there are no residential sanctuaries for those who are heading towards mental or emotional breakdown: people who need to get away from it all for a spell, from their families, their friends, their jobs, their problems, and to be granted a respite in which to sort themselves out.

Some may urgently need psychiatric treatment. Most do not. They merely want to withdraw from their crisis, and get their troubles off their chests to anyone who will listen compassionately and help them get things back into proportion. In any case professional psychiatric aid is rarely immediately available.