progestogenic influence on tubal function, however, has been rejected as cause of ectopic gestation.⁴

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- ¹ Martinez-Manautou, J, *Syntex Symposia Series No 2*, p 18. Amsterdam, Excerpta Medica, 1968.
² Butler, C, and Hill, H, *Lancet*, 1969, **1**, 1262.
³ Huntington, K M, *Lancet*, 1974, **1**, 360.
⁴ Hawkins, D F, *British Medical Journal*, 1974, **1**, 387.

* * * We sent a copy of this letter to Drs Liukko and Erkkola, whose reply is printed below.—Ed, *BMJ*.

SIR,—In response to the comments of Drs Corcoran and Rizk we wish to add that: (1) only day-marked packs of birth control pills are available in Finland, (2) all mothers were of same ethnic group, (3) the weight of the women varied from 47 to 65 kg, with no statistically significant difference between the groups, (4) their ages varied from 19 to 34 years, (5) all but one had previously delivered a child, and (6) no differences in terms of previous operations or infections were noted.

In analysing the possible reasons for the low rate of ectopic pregnancy with lynoestrenol Drs Corcoran and Rizk omit the one which we consider the most important. It has not been demonstrated that 0.5 mg of lynoestrenol is equivalent in terms of progestational activity to 0.03 mg of D-norgestrel or 0.3 mg of norethisterone. In fact, there is some evidence that the ovarian effect of 0.5 mg of lynoestrenol is profound, with either inhibition of ovulation or effective functional suppression of the corpus luteum.¹⁻⁴ This would also explain the low Pearl index with 0.5 mg of lynoestrenol.

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- ¹ Wiese, J, *Acta Endocrinologica*, 1975, **78**, 325.
² Gerber, E, Koch, Ph, *Medizinische Klinik*, 1976, **71**, 51.
³ Aktories, K, et al, *Geburtshilfe und Frauenheilkunde*, 1976, **36**, 318.
⁴ Friedrich, E, et al, *American Journal of Obstetrics and Gynecology*, 1975, **122**, 642.

SI: two years on

SIR,—I am writing to state how strongly I agree with the views expressed by Professor D N S Kerr (15 January, p 167). This is in spite of the fact that I have somewhat reluctantly, and on the recommendations of the Department of Health and Social Security, allowed SI units to be introduced into the reporting system of our hospital routine biochemistry laboratory.

Clinical diagnostic ability frequently makes use of a "gestalt" mechanism in which an overall pattern is recognised. This includes the history, clinical signs and symptoms, and the results of various methods of investigation, including biochemical. Excellence in clinical medicine is acquired only after a long period of experience. By the time such excellence has been acquired an individual can be expected to be somewhere between 40 and 60 years of age. This is a time when it is extraordinarily difficult to grasp drastic changes, such as SI units, which therefore interfere with the accustomed overall pattern giving rise to

diagnosis, especially in the emergency situation. As doctors we should realise that although wisdom may increase with age, on the whole adaptability decreases.

I have some sympathy with Dr M J Conway's concept (22 January, p 229) that so-called normal values should be expressed as 100 and that laboratory results should be expressed in appropriate figures related to standard deviation. I am afraid, however, that this is not acceptable in the light of what we know about variation in biochemical findings with age, sex, time of day, social class, time of the year, method of collection of the specimen, etc. We are not yet at a stage when we can separate out these variations and there could well be catastrophic mistakes in interpretation of virtually all biochemical data, not only in relation to just some. May I mention, as examples, variations of serum alkaline phosphatase and of serum cholesterol with age? The latter has led to much confusion in relation to ischaemic heart disease.

I largely agree with the suggestion put forward by Dr M B King in the same issue (p 229) but would again suggest, for the reasons given above, that it would be impossible to provide normal ranges of values. I am not splitting hairs, therefore, when I suggest that the values supplied should be the so-called reference ranges for the laboratory, since the concept of normality is so complicated.

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Leprosy in Northern Nigeria

SIR,—Dr C L Crawford (25 December, p 1562) criticises me and, by implication, the Faculty of Medicine of Ahmadu Bello University, Zaria, for sending medical students to a leprosarium to learn about leprosy.

Whatever is the prevalence and, even more important, the incidence of leprosy in the north of Nigeria today, it remains an important disease. Leprosy has a remarkably wide spectrum of clinical features, and medical students should have seen as many of these as possible, especially if the disease is to be dealt with in general dispensaries, clinics, and hospitals. The place to become familiar with the natural history of leprosy, with its manifold manifestations and with the difficulties of making a clinical diagnosis, is a leprosarium where good records are kept and large numbers of outpatients seen. It is desirable, too, that the student should be able to reach a definitive diagnosis himself by making, staining, and examining slit-skin smears. This also can be learnt under supervision in a well-equipped leprosarium.

The management of the established case of leprosy involves a good deal more than regular administration of dapsone, and students can see for themselves the wide range of therapeutic measures available in a good leprosarium (physiotherapy, occupational therapy, surgery, physical, psychological, and social rehabilitation, etc.). If an attachment to a leprosarium enables students also to see a wide variety of skin disorders, to visit villages where over half the inhabitants have onchocerciasis, and to see for themselves the conditions in which this infection is common, as well as to familiarise themselves with the ecology of a part of the

vast Federation of Nigeria which they might otherwise never know about, then their visit to the leprosarium at Garkida should be a rewarding and relevant experience.

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Hepatitis B in general practice

SIR,—During the two-year period 1975-6 tests from HBsAg (hepatitis B surface antigen) were carried out on sera from 753 patients in Ayrshire, of whom 583 (77%) were in hospital and 170 (23%) from general practice. Despite their lower proportion HBsAg was detected in 19 (11%) of the 170 general practice patients but in only 5 (0.9%) of the 583 hospital patients.

Most of the hepatitis B patients from general practice had mild illnesses and did not require admission to hospital. It seems that a code of practice similar to that for hospital patients positive for HBsAg¹ is required for the treatment and management of cases at home.

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¹ Department of Health and Social Security, *Report of the Advisory Group on Hepatitis and the Treatment of Chronic Renal Failure 1970-2*. London, DHSS, 1972.

² Lowbury, E J L, et al, *Control of Hospital Infection*. London, Chapman and Hall, 1975.

Blood: breath partition coefficient of alcohol

SIR,—According to Henry's Law a major factor affecting the calculation of blood alcohol concentration using the partition coefficient will be temperature. Wright¹ estimated that a 1°C rise in temperature will increase the estimated blood alcohol concentration by 6.5%. It would be interesting to know how Dr T A A Alobaidi and his colleagues (18 December, p 1479) controlled mouth temperature during their experiments. This is a possible explanation for the poor correlation observed between actual and calculated blood alcohol concentrations.

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¹ Wright, B M, in *Proceedings of the Third International Conference on Alcohol and Road Traffic*, p 251. London, British Medical Association, 1963.

* * * Dr Alobaidi having returned to Iraq we sent a copy of this letter to Professor J P Payne, whose reply on behalf of all three authors of the paper referred to is printed below.—Ed, *BMJ*.

SIR,—Dr Slater is of course correct in his assertion that the partition coefficient is a function of temperature. In our experiments we made no attempt to control mouth temperature for obvious reasons, but we measured it and made the appropriate correction in our calculations. To save space and because they had been published previously we did not include the details in the text but we did provide the references to our previous work.^{1 2}