"given." For, as Bayes knew (his proposition 2), the probability that two events will both happen is the probability of the first multiplied by the probability of the second given that the first happens. Thus the probability of both S and D is equally $P(D) \times P(S|D)$ or $P(S) \times P(D|S)$, whence the theorem. But it was known well before Bayes.

More seriously, Dr Spicer misleadingly goes on, "Its use in the more general field of testing statistical hypotheses has caused a good deal of controversy, and it suffered for many years from the influential criticisms of Sir Ronald Fraser" (sic—he means Fisher). Dr Spicer here confuses the particular method of inductive argument with the above theorem in probability. It was the former that Fisher criticised (quite rightly, in my view: the argument deserves to suffer), never the latter.

Finally, it is a pity to write of the *likelihood* of disease as a synonym for the *probability* of disease, since "likelihood" has a well-established technical meaning in this context, and it is not true (when the word is used technically) that "the likelihood of disease being present depends not only on the signs and symptoms but also on the frequency of the disease in the community." Technically, the likelihood of a disease D given symptoms S is defined as proportional to $P(S|D)$, and therefore does *not* involve the frequency of the disease. These important distinctions are treated in my book *Likelihood*.[1]

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[1] Edwards AWF. *Likelihood*. London: Cambridge University Press, 1972.

BCG in Britain

SIR,—I read with interest your leading article on BCG in Britain (27 September, p 825). In considering the comparative costs of the BCG school programme and the cost of treating the resulting cases of tuberculosis should the programme be stopped, the article failed to consider the appreciable cost involved in the follow-up of contacts with patients suffering from open tuberculosis.

In recent months there have been three patients with pulmonary tuberculosis admitted to a general hospital in this district, which is certainly not a high-risk area. One patient was admitted with a diagnosis of renal failure and was then diagnosed as having pulmonary tuberculosis as well, and within a week of admission there have been more than 80 contacts. The follow-up of these numbers of contacts is inevitably costly and extremely time consuming. The work involved was further increased by a not insignificant number of contacts that proved to be Heaf negative, despite BCG vaccination more than five years previously.

Tuberculosis should be a preventable disease, and before an effective programme is curtailed all the cost factors must be put into the equation of cost effectiveness. The costs of sickness benefit, lost production, etc, must also be taken into consideration when we try to arrive at a total figure for the cost of treating those patients with the disease.

Britain will continue to lag behind if more money is not made available for better education of the profession and the public alike and for the implementation of more preventive programmes (totally unlike the attitude of the DHSS towards cervical cytology).

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Infectivity of tuberculosis

SIR,—I entirely agree with Dr R H Townshend (4 October, p 942) about the early return to work of patients with tuberculosis. The problems associated with work contacts are frequently overlooked. I have dealt with two cases of tuberculosis in the last three months in which the sputum was positive for acid-fast bacteria. In both cases I had to request screening of work contacts, despite the fact that notification had occurred and the relatives had been screened. One employee visited his work place several times during his sickness absence, including the first six weeks. He appeared to have had no advice to the contrary. The potential industrial relations problems arising from this state of affairs are considerable. Surely it should be routine for all patients with active tuberculosis to have their work contacts screened in addition to their relatives.

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Diagnostic survey of infants referred for chromosome analysis

SIR,—Dr R M Winter and others (18 October, p 1045) report a large diagnostic catch in neonates referred for chromosome analysis. The authors express interest in the follow-up of the undiagnosed babies with odd-looking faces, who comprised 21% of the non-Down's-syndrome cases.

I have been impressed by the observation that all eight personally observed children with Prader-Willi syndrome were sufficiently odd looking in facial appearance to make the paediatrician ask for chromosome analysis in the newborn period.[1] The Prader-Willi syndrome is usually not recognised until obesity (and mental handicap in those cases where this is a feature) develops in childhood and I suspect that most cases slip through the neonatal diagnostic net. However, the combination of slit eyes, a thin, down-turned mouth, hypoplastic scrotum or labia, floppy inactivity, and the need for tube feeding is, I think, characteristic and sufficiently recognisable to allow positive developmental guidance.[1]

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[1] Stephenson JBP. *Develop Med Child Neurol* 1980;**22**: 792-5.

Are reflectance meters necessary for home blood glucose monitoring?

SIR,—We were interested to read the short report by Dr S D Ferguson and Dr R Prosser (4 October, p 912) on the use of the Boehringer reagent strips for home blood glucose monitoring. Their results in five children appear to indicate an acceptable degree of reliability for these strips and confirm the previously published reports of Walford *et al*,[1] and of Earis *et al*[2] in adults. We would like to add a note of caution, however.

We have compared the results obtained in seven children from Boehringer reagent strips with simultaneous capillary blood glucose estimates (obtained by placing a drop of blood on a strip of filter paper (Whatman No 4619) with subsequent analysis of the blood by the technique described by Wakelin *et al*[3] and adapted by Paisey *et al*.[4] Although the correlation between the two methods was similar to that described by Ferguson and Prosser, we found that two children produced very inaccurate results with the Boehringer strips: including a reading of 4·4 mmol/l (79 mg/100 ml) at a blood glucose of 18·5 mmol/l (333 mg/100 ml) and of 10·0 mmol/l (180 mg/100 ml) at a blood glucose of 3·9 mmol/l (70 mg/100 ml).

Some children appear to find the Boehringer reagent strips harder to interpret than others. Before reliance is placed upon these, it is important to be certain that the child is able to read them accurately. We would also anticipate attempts by some children to falsify the results when the Boehringer strips are used widely in paediatric practice. Laboratory analysis of filter paper strips impregnated with capillary blood has the advantage of being relatively immune to falsification, and the automated laboratory technique is comparatively cheap.

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[1] Walford S, Clarke P, Paisey R, Hartog M, Allison SP. *Lancet* 1980;i:653-4.
[2] Earis JE, Greenway MW, Macauley MB. *Lancet* 1980;i:823-4.
[3] Wakelin K, Goldie DJ, Hartog M, Robinson AP. *Brit Med J* 1978;ii:468-9.
[4] Paisey R, Bradshaw P, Hartog M, West P. *Brit Med J* 1979;ii:1509.

Bone-marrow aspiration

SIR,—The article on bone-marrow aspiration and trephine biopsy (26 July, p 280) and Professor P Jacobs's letter (4 October, p 944) deserve further comment.

I have performed several hundred bone-marrow aspirations on patients with lymphoma and multiple myeloma. In a study on non-Hodgkin's lymphoma, aspirate samples were taken from two or three sites (sternum and anterior iliac crests) and the aspirated particles were ejected from the syringe on to a slide. This collection of blood and particles was then tipped into an EDTA solution and fixed for histological study. A large number of particles always remained adhering to the slide with the proportion of blood much reduced. This material was an excellent concentrate of cellular marrow, ideal for smearing and staining. Comparison of material aspirated from the sternum with that from the iliac crests indicated that a considerably more particulate sample was obtained from the sternum and that the rate of detection of tumour infiltrate was consequently much higher at this site. In the light of the results of other workers, however, it is not possible to justify multiple-site aspiration for the detection of non-Hodgkin's lymphoma; but I would submit that where aspiration is of value, and this certainly includes a multiple myeloma, the most satisfactory technique remains a sternal puncture.

Multiple-site aspirations cause considerably