

correspondence

Austrian science journalists were warned

SIR,—As one of the people principally involved in disclosing the fraudulent activities of Schaden ('Austrian science minister attacks science journalists in fraud case' 24 November, page 292), I should like to point out that in 1973 I warned Austrian scientists and science journalists about the questionable 'discoveries' of Schaden and Celta. Unfortunately, as the Science Ministry's document demonstrates, this was to little avail.

The purpose of the document and the Ministry's previous interventions and warnings, was to protect the scientific community from public discredit on account of a charlatan's 'research'. It was also to serve as a constructive warning to scientific journalists not to take every apparent scientific 'break-through' at its face value.

If the Science Ministry's document lacks thoroughness, this will certainly be supplied by the court's records of the Schaden case.

Yours faithfully,

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A third world energy view

SIR,—Effective use of the world's finite cheap oil reserves to save time and effort deserves a broader discussion than that given by Alvin M. Weinberg (20 October, page 638). Efficiency of the conversion of energy into time saved is highly variable. To travel 15 miles, for large numbers of people, means walking in the tropical heat carrying luggage and taking, say 5 hours. To be lucky enough to have a small motorcycle (and do the journey in 30 minutes on 0.1 gallons of fuel) saves 45 gruelling man hours per gallon. To then change to a large car (and come back at 90 miles per hour using 1 gallon of fuel) will only save a further 0.37 man hours per gallon.

The assertion that "a free society allows each of us to make the choice" and "economics . . . integrates all these . . . judgments" means that the rich have the right to decide. But when availability of cheap oil begins to decrease these judgments will, no doubt, be re-evaluated, and those who make them now thus carry a heavy respon-

sibility. Surely they will be expected to justify their judgments when others reach the position where they could use oil but find that it has all been carelessly squandered to save milliseconds of millionaire's time per gallon.

Yours faithfully,

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Desert rainfall

SIR,—J. L. Deaton (24 November, page 294) makes several statements concerning our article (19 May, page 192) with which we disagree. He claims, in particular, that "in no sense is the mean too large". There is, however, a well defined sense in which the mean of a positively skewed distribution (for example, precipitation) is "too large". Specifically, it may be desired that a statistic, to be taken as a measure of central tendency, has the property that either it represents the midpoint of the distribution (that is the median), or that it represents the value of the distribution which is most likely to occur (that is the mode). If the distribution is positively skewed, then the mean is larger than the values satisfying either of these properties.

Deaton also claims that the mean "is quite indicative of how much rain commonly falls in most regions—even Gao and Niamey." But the mean, at least in some sense, is not at all indicative of how much rain "commonly" falls in the Sahel. As an example, consider the Gao August precipitation data used in our article: only 4 of the 35 observations (11%) fall within 10% of the mean; 23 of the 35 observations (66%) fall below the mean; and the mode (or most 'common' value) is 80.0 mm, substantially less than the mean of 100.9 mm.

Deaton states that "there seems to be only a slight tendency for the degree of skewness to increase as the average amount of precipitation decreases". This statement contradicts the results of studies on this issue in the climatological literature (Arnold Court in *Climates of North America*. World Survey of Climatology 11, 212 (Elsevier, Amsterdam 1974)). While it is true that all precipitation distributions are at least slightly positively skewed, there is a marked tendency for the

degree of skewness to increase as the mean precipitation decreases.

Finally, Deaton asks for documentation of the observation that "recent weather tends to influence perceptions more heavily than earlier weather and wet spells more heavily than dry ones". The documentation for this statement is a quote from J. C. Caldwell "Rain-fall Statistics, Droughts, and Desertification in the Sahel," *Desertification*, 84 (Westview Press, Boulder, Colorado 1977).

Yours faithfully,

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IQ or intelligence type?

SIR,—The controversy over race and IQ is clouded by the lack of culturally neutral testing procedures. Who would we be to say that a community of blacks who tested slightly lower than comparable whites were not immeasurably superior in forms of mental ability not emphasised in the test procedures? A slight mean shift from one community to another would doubtless be given more weight than it deserves, and it would still be possible (if its Gaussian distribution was shallower) for the 'less endowed' community to provide more geniuses than its counterpart. Furthermore, the difference between the two means would certainly be less than that between any two members of either group that you might encounter in the street, but would this be taken into account by those with political motivations? Data may be used to substantiate whatever case and in an area like this the phenomenon could have serious consequences. The "compensatory advantages" Sir Andrew Huxley cites in his address to the British Association annual meeting would soon be seen as racially-discriminative favouritism, and is it really so likely that humane considerations would moderate the debate? We take scientific findings much less seriously than it is popular to imagine: the new evidence in fields such as psychokinesis, spoon-bending, E.S.P., and tobacco smoking has done little to alter the attitudes of those with convictions of convenience that contradict the specialist conclusions, and there are still