other may be linked with a very explosive eruption of Mt St Helens, a few hundred kilometres to the north of the trees[6].

Even though Ireland is relatively close to the Greenland icecap, it is remarkable that of the six ice-layer acidity peaks of over 4 microequivalents kg^{-1} ice reported[3,5] for the common prehistoric period, four coincide with or are very close to the most consistent Irish low-growth events, and one of the remaining two matches the 207 BC one-year low-growth event[2]. Only two of the seven most prominent low-growth events fail to coincide with any of the six top ice-layer acidity peaks (see table). The growth minimum of the 1620s BC is deepest in 1628 BC (M.G.L. Baillie, personal communication), only one year before the 1627 BC frost ring in California, surely evidence of a major climate event consistent with the effects of major explosive eruptions on the climates of both regions[4,7,8]. That these events occur within two adjacent summers during the range of possible dates for the Dye 3 acidity peak and that there is such a coincidence between the major Greenland acidity peaks and Irish oak low-growth events is compelling circumstantial evidence for an early 1620s BC date for the '1644 BC'

acidity peak and hence for the eruption of Santorini.

This suggests to me that much could be gained by an integrated use of tree-ring records with several ice-layer records, from suitable low-latitude icecaps as well as polar, to develop a precise and accurate chronology of climatically effective eruptions over the last few thousand years. This would be greatly helped if it were possible to demonstrate in tree rings an elemental or isotope fingerprint of major explosive eruptions.

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Less sinister statistics from baseball records

SIR—It has been suggested[1,2] that lateral preference ('handedness') influences life expectancy, the inference[2] being that left-handers really are more gauche and maladroit than their more dexterous counterparts. But a Kolmogorov–Smirnov test[4] shows that even if there were no difference in the mortality distributions of left-handers and right-handers, a difference in the cumulative survival fraction larger than that presented by Halpern and Coren[1] would arise by chance in about 98 out of 100 samples of the size presented there. This inspired me to investigate a much larger sample.

I used the statistics on birth, death and handedness of baseball players in *The Baseball Encyclopedia*[3]. Following Halpern and Coren[1], handedness was

determined by both throwing and batting hand (LL and RR, where the first letter represents the batting hand, the second the throwing hand). Of 4,220 players, 645 were LL, 2,829 were RR; LRs and RLs were excluded from the sample. Eighteen per cent of the total sample (pitchers and batters born between 1842 and 1922) was left-handed. The average life expectancy was 66.7 yr for LLs and 66.8 yr for RRs.

In calculating the difference (RR minus LL) in the fraction of players surviving to a given age, I noticed that as the sample size increased, the percentage difference decreased, as expected if the difference were due only to statistical fluctuations (see figure). On the null hypothesis that the two mortality distributions are the same, a Kolmogorov–Smirnov[4] test

shows that a difference larger than the maximum difference (0.035) between the cumulative survival fractions in our full sample would be expected with $P = 0.54$.

Because that test examines only the maximum amplitude of the differences, not their smoothness and breadth, 25 Monte Carlo simulations were performed using the full data set and a 'bootstrap' method, in which a handedness was randomly assigned (with $P = 0.18$ for LL as in the real sample) to each age at death in the real sample. In about half of these simulations difference curves were as smooth as that in the figure, but with comparable or larger amplitude. Thus the hypothesis that RRs and LLs have the same mortality distribution cannot be rejected with $P > 0.5$.

Although switch hitters are common, there is only one recorded switch thrower, so throwing hand would seem to be an extremely accurate indicator of lateral preference. I therefore repeated the tests on the sample of 3,454 Rs and 765 Ls defined by throwing hand alone; the results were not significantly different from those reported above.

I conclude that there is no statistically significant difference between mortalities of left-handed and right-handed baseball players; to uncover any real difference would require a sample containing at least 10,000 left-handers. Part ($17 \pm 2\%$) of the full sample was left-handed from age 20 to age 90. Therefore, this sample provides no support for the claim[1,2] that the percentage of left-handers in the population declines dramatically above age 50.

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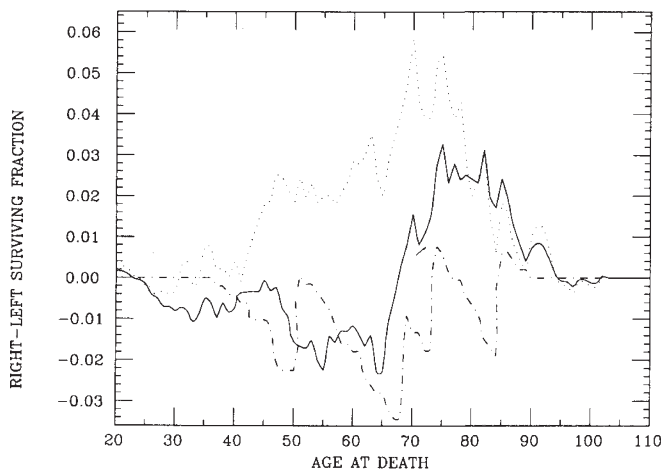*California Institute of Technology,*
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Difference between fraction of right-handers and left-handers surviving as a function of age of three groups. Dot-dash line, group of 57 players active between 1876–1900 ($\times$ 0.1); dotted line includes an additional 1938 players active between 1901–1919; solid line, total sample of 3,474 players.

AIDS and common sense

SIR—Those of us who are involved in the care of people with AIDS view the Byzantine 'scientific' arguments of Duesberg and of Rubin (*Nature* 334, 201; 1988) with dismay. Common sense is obviously discarded. Rubin's closing statement, suggesting an equivalent risk of infection from transfusion (often multiple) of blood and blood products to patients, many of whom have severe existing disease, with the minute volumes transferred by needle sticks into usually healthy adults is ludicrous and calls into question any scientific merit of his arguments.

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