Published quasar catalogues[9,10] contain $N(19) \sim 2{,}000$ quasars brighter than $B = 19$. Unpublished surveys probably treble this number. The expected number of random associations with the separation and magnitude of Q1146+111B,C is $NP_r(157 \text{ arc s}, 18.5)/2 \sim 20$, which is roughly what is observed[5,9]. The expected number of closely clustered companions is $NP_c(157 \text{ arc s}, 18.5, 1.0)/2 \sim 1$. Hence we would expect by now to have discovered of the order of one physically associated pair of magnitude 18.5 quasars separated in angle by less than 157 arc s and in velocity by the velocity dispersion of small groups which dominate the correlation function, $\sim 300 \text{ km s}^{-1}$. We should not be unduly surprised if Q1146+111B,C fails tests of the lensing hypothesis[11] — it may be that expected pair.

In conclusion, we suggest that the necessity for lensing in some of the other gravitational lens candidates should be re-examined. This is especially important for faint quasars when there is no independent evidence for lensing (for example, an intervening giant galaxy or distortion of background galaxies) and no sign of common spectroscopic or morphological peculiarities. (Overall spectral dissimilarity need not rule out lensing because quasars can very significantly in the time delay between two images.) The quasar pairs Q2345+007A,B (ref. 12) and Q1635+267A,B (ref. 13) in which the fainter quasars are both roughly magnitude 21 both give $P_c \simeq P_r \sim 2 \times 10^{-4}$, if we assume that the correlation function is valid for proper distances $\sim 20$ kpc (as it is for the galaxy–galaxy correlation[14]; it has been suggested that the quasar–galaxy correlation function is even higher[15,16]). It is therefore not unreasonable that these two pairs comprise distinct objects; since $P_r \sim P_c$ we should expect to find a few similarly separated quasars with discrepant redshifts, for example, Q1548+114A,B (ref. 17).

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## Beware the cups that cheer

SIR—Aluminium toxicity, intoxication or accumulation is associated (not necessarily causally) with several conditions including dialysis encephalopathy[1] and osteomalacia[2], the amyotrophic lateral sclerosis of Guam, and Alzheimer's disease[3] (believed to account for some one third of a million UK sufferers from senile dementia and said to affect over two million people in the United States). Edwardson and his colleagues have recently shown[4] the presence of aluminosilicates in senile plaques in Alzheimer's disease. Dietary intake of aluminium has not generally been regarded as a hazard, though one Swedish study[5] showed that cooking rhubarb in aluminium saucepans mobilized a significant amount of aluminium, presumably complexed by oxalate (ethanedi-oate). We would like to suggest that attention is paid to the high aluminium content of tea leaves and their infusion.

The tea bush (formerly *Thea sinensis*, now *Camellia sinensis*) is grown on acid soil, and tolerates high levels of aluminium, accumulating great quantities[6] of it. Indeed, potassium alum is used as a fertilizer[7]. The only other food plant which tolerates such high aluminium levels is the cranberry. The tea bush accumulates aluminium in the leaves to enable it to overcome a high level of aluminium in the leached acid soils in which it thrives.

We have examined samples of Chinese, Indian and Russian tea bought as packets from a local supermarket. The X-ray powder picture of each dry ash (all of surprisingly good quality) was essentially that of α-alumina ($Al_2O_3$). Other weak lines were present. The aluminium content (by gravimetric analysis) of these dry ashes varied from 8,700 p.p.m. to 23,000 p.p.m., in line with several reported analyses; up to 20,000 p.p.m. Al/dry weight have been reported in mature leaves[8].

We infused the teas in a teapot for up to 30 minutes using Cardiff tap-water (very soft), then analysed the infused liquids for aluminium with gravimetric references to underpin routine atomic absorption measurements. A typical finding was that the infusion of Russian tea had about 100 p.p.m. aluminium ($100 \text{ mg dm}^{-3}$), and the Indian and Chinese typically had 40 and 60 p.p.m. aluminium, respectively.

Since many Britons drink a litre of tea a day, tea is likely to be as great a source of aluminium as any other in the British diet. (The aluminium foil often used for lining tea chests seems unlikely to exacerbate the problem).

Assuming (in the absence of information on the transfer of aluminium from diet into organs) that any source of aluminium is to be avoided at least for those suffering from conditions related to high aluminium levels, the belief that tea is a sovereign remedy under all circumstances may need revision. "The cups that cheer but not inebriate", may not be as true as William Cowper thought in 1785.

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## Frequency of dizygotic twinning

SIR—I am puzzled by a calculation in J.M. Diamond's article "Variation in human testis size" (*Nature* **320**, 488; 1986). In it he states that a single ovulation with intercourse will result in a live birth with probability ¼ and therefore a double ovulation will result in dizygotic twins with probability 1/16. He concludes that the double ovulation frequency must be 16 times the observed dizygotic twinning rate among births.

This conclusion is incorrect since a large fraction of the double ovulations will not lead to any birth at all. A double ovulation will yield zero births with probability 9/16, one birth with probability 6/16 and two births with probability 1/16. Hence the probability that a double ovulation will yield twins conditioned on there being any birth at all is $(1/16)/(1/16+6/16)=1/7$. Therefore Diamond should conclude that the double ovulation frequency is 7 times the observed twinning rate. Thus, for example, the Yoruba women would have a double ovulation frequency of 34.3% rather than 78%, as stated.

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