correlated at the 5% level, using Mardia's statistic. The asymmetry may still, therefore, be considered significant. The first exercise, however, provides a warning of the tremendous sensitivity of the probability of obtaining a sequence to tiny systematic errors in Δ and to the selection of sample points, if the selection procedure prefers one type.

There is evidence within the data for such a systematic effect (error or selection bias) in the correction for galactic Faraday rotation. In Birch's sample, there are 18 sources with rotation measure $|RM|>25$ rad m^{-2} (R. G. Conway, personal communication) (more than 45° rotation at 18-cm wavelength). Of the 15 sources for which the total polarization angle is consistent with that of the two lobes, Birch's Δ has the same sign as rotation measure for 13. This much coincidence would arise by chance 0.4% of the time. Furthermore, the hemispheric split between positive and negative Δs in the total sample is also that which separates large positive from large negative rotation measures.

The physical significance of Birch's 'average magnetic field' (weighted by polarized intensity) is not completely clear. Most of the 3C sources are extended doubles with bright hotspots[7]. The magnetic fields in hotspots are generally 'wrapped around the head'[8–10], that is, perpendicular to the direction of elongation at the head [which is often depolarized (R. G. Conway, personal communication) and dominates at high frequency[8,10]] and parallel to the direction of elongation in the trail. Depending on the relative brightnesses of head and trail in a given source, Birch's average may pick out one or the other feature. This probably explains the lack of correlation between Δ and Δ_t. For example, polarization-resolved maps[8] indicate that the head dominates in 0210+86 ($\Delta_t=30°$, $\Delta=-52°$) while the trail dominates in 1845+79 ($\Delta_t=-26°$, $\Delta=-26°$).

Given these properties of radio sources, one can easily imagine ways in which the small correlation with rotation measure could have been produced: for example see Fig. 1. We consider two sources with components separated along PA = 90°, because most of the sources are aligned this way (evidence not of universal shear, but of the east–west orientation of the Cambridge interferometer, which results in higher resolution in the east–west direction than in the north–south direction). When two sources with opposite Δ_t are viewed through a medium giving large negative rotation, a conservative rotation-measure fitting program which seeks the smallest consistent rotation measure will weight the head ($\Delta<0$) of the source with $\Delta_t>0$, and weight the trail ($\Delta<0$) of the one with $\Delta_t<0$, giving a correlation of Δ with RM. It is difficult to determine how much this effect may have influenced the data, but if the signs of Δ of 30% of the sources with $|RM|>20$ are reversed, the asymmetry parameter of Birch's sample drops to 16, which is 18% probable.

Alternatively, if sources with Δ (trail) of opposite sign to RM were eliminated from the sample because of the large curvature in their RM against λ^2 plots (Fig. 1*a*), and those with the same sign (and smaller curvature, Fig. 1*b*) retained, a correlation would also be introduced into the data. Birch rejected 10 sources with 'ambiguous' rotation measure fits. If they were omitted for this reason, the true asymmetry would have been 15 in 55, which arises by chance 38% of the time.

We conclude that the data presented by Birch are insufficient to substantiate his claim.

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BIRCH REPLIES—The statistical evidence for universal vorticity[1] depends primarily on the magnitude and sign of Δ, and not, as Phinney and Webster assert, on the handedness of the elongation of the tails of radio sources. The quantity Δ, which is the angle between the average magnetic field and the major axis of a radio source, was found to be predominantly positive in one half of the sky and negative in the other; as agreed by Phinney and Webster, this result had a chance probability for the PB sample of 0.25%. Using the magnitudes of Δ, and vector methods which allow fully for uncertainties in values near 90°, the chance probability becomes 1.2×10^{-6}.

This remarkable result prompted the analysis of the independent samples of Laing, Ekers and Conway, for which the predicted values of $\bar{\Delta}$ were obtained; the significance of this confirmation for the independent Laing sample was 5.2×10^{-3}. Subsequently the model was tested successfully against the directions of the tails of radio sources. There can be no question of the significance of these results, although the secondary result for Δ_t is clearly less firm than the primary result of anisotropy in Δ itself.

The suggested explanation of this in terms of Faraday rotation in the interstellar medium deserves attention. This requires a detailed analysis of the rotation measures for these radio sources. For the Jodrell Bank sample the rotation measures will be published by Conway *et al.* These data show no correlation between the signs of Δ and RM to the 33% level, but there would have to be a high degree of correlation if such an explanation were correct. Furthermore, large errors of $+37$ rad m^{-2} and -19 rad m^{-2} would be required to produce the effect—far larger than the present uncertainties.

It may be of interest that, taking values from ref. 2 for the sample of 94 from which the PB sample of 45 was drawn and not using Jodrell data, the sample can be split into equal halves at RA 0800/1626 to yield:

$$\overline{\sin 2\Delta_1} \simeq -0.393\pm0.088$$

$$\overline{\sin 2\Delta_2} \simeq +0.097\pm0.115$$

These belong to different populations at the significance level $\alpha \simeq 2.9\times10^{-3}$, and are non-zero with $\alpha \simeq 3.3\times10^{-5}$.

The evidence I adduced remains strong and unexplained except by universal rotation; that is, the statistical significance is high and the suggested systematic errors cannot adequately explain the data.

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Corrections to the nucleotide sequence of the *src* gene of Rous sarcoma virus

"There's always wan encouragin' thin' about th' sad scientific facts that come out ivry week in th' papers. They're usually not true." (ref. 1)

WE previously reported a nucleotide sequence for the v-*src* gene and its environs in the genome of the Schmidt–Ruppin strain of Rous sarcoma virus (RSV)[2]. Subsequent unpublished work by ourselves and other investigators revealed the likelihood of errors in our original report. We therefore reinvestigated the suspect regions of the sequence and indeed discovered mistakes in our previous data. The errors were detected by (1) restudy of original autoradiograms, (2) reference to detailed restriction maps of molecularly cloned DNA and (3) resequencing of the regions of greatest doubt. Here we report the important changes necessitated by our new data (see Fig. 1). A complete version of the revised