CARBON DATING: UNEXPECTED ERRORS AFFECT CARBON DATING TECHNIQUES, CLAIMS *NEW SCIENTIST* MAGAZINE

In an article published in the respected science journal *New Scientist* on 30 September of last year, science writer Andy Coghlan reported on the results of an international workshop on carbon dating held earlier that month at East Kilbride near Glasgow in Scotland. According to Coghlan, the surprise finding of this workshop was that "The margin of error with radiocarbon dating ... may be two or three times as great as practitioners of the technique have claimed ... The finding means that some artefacts whose age was determined by radiocarbon dating might actually be considerably older or younger than the results suggest." The article was illustrated with a photograph of the Turin Shroud.

The finding came as a result of trials in which 38 participating radiocarbon dating laboratories had to date a set of samples made from wood, peat and carbonate. According to Professor Murdoch Baxter, director of the Scottish Universities Research and Reactor Centre at East Kilbride, who was one of the organisers of the trials, the laboratories involved were on average "two or three times less accurate than implied by the range of error they stated." Of the 38, five were laboratories using the accelerator mass spectrometery technique, and these apparently "came out of the survey badly"

The Oxford Radiocarbon Accelerator Unit, who worked on the Shroud sample, apparently declined to take part in the trials, as did Harwell. In fact, in a letter in the 14 October issue of *New Scientist* Dr. Hedges of the Oxford Unit voiced what he called a "vigorous protest" at the *New Scientist*'s linking of his laboratory with the East Kilbride intercomparison trial, claiming that "the intercomparison was to compare the results of laboratories, not techniques", and that "its findings should be laid at the doors of the laboratories that produced them."

Although it would be quite wrong to suggest that the survey's findings in any way explain the large discrepancy between the "1260-1390" carbon dating of the Shroud and the circa 30 AD date that might be expected if the Shroud is genuine, Oxford's refusal to take part in such a well-founded inter-comparison scarcely puts them in the most favourable light. Furthermore the results of the trials are clearly important in showing the seriously misleading nature of the seemingly highly impressive "margins of accuracy" routinely claimed by carbon dating laboratories in general. According to Professor Baxter "It is now clear that other unaccounted-for sources of error occur during the processing and analysis of samples." This at least leaves as an open question the possibility, as strongly contended by BSTS textile specialist John Tyrer and others (see Newsletter no 20 et al.), that some as yet "unaccounted-for source of error" may have affected the results claimed for the Shroud.