

BOOK REVIEWS

H. E. Gove. *Relic, Icon or Hoax? Carbon Dating the Turin Shroud*. Bristol and Philadelphia, Institute of Physics Publishing, 1996: 336 p. ISBN 0-7503039-8-0.

The 16 February 1989 issue of *Nature* carried an article reporting a suite of ^{14}C measurements carried out by three AMS laboratories—Arizona, Oxford, and Zürich—on four textile samples. Three were known-age control samples; the fourth was the Shroud of Turin, a stained, fire-damaged and patched rectangular-shaped piece of linen cloth showing, on closer inspection, the pale image of a man exhibiting various wounds. Since the 14th century, this cloth has been regarded by many as the burial shroud of Jesus. The ^{14}C ages obtained indicated that it was a medieval artifact.

Relic, Icon or Hoax? recounts what the author, Harry E. Gove, emeritus Professor of Physics at the University of Rochester, calls an “adventure”—one that “lasted too long and was filled with too much acrimony” (p. 309)—his effort to date the Shroud of Turin by the ^{14}C method. Written in a direct and bold style, the story told is no dry recitation of events by a disinterested individual. Rather, as Allen Bromley in the forward notes, this is a “personal memoir” that recites a record of “deception, outright lies, low cunning, misrepresentation, and a pathological hunger for publicity as well as solid science and technology” (p. x–xi). Professor Gove quotes a newspaper article talking about “intrigue, political maneuvering, broken promises, questioned motives and bruised egos” (p. 233) as part of the process of obtaining access to samples of the Shroud to carry out the ^{14}C measurements.

As told by Professor Gove, the story has both heroes and villains. In both camps are scientific colleagues and ecclesiastical authorities. There are colorful personalities, mysterious organizations (e.g., STURP (Shroud of Turin Research Project) and the “Catholic Counter Reformation in the XXth Century”), confrontations and machinations that would have been appreciated by Machiavelli. The author indicates (p. xiv) that the published text represents a version that was tempered on advice of his attorney. One assumes that libel laws were considered.

While one topic predominates—the author’s understanding of events and his perspective on the actions and motivations of individuals involved in dating the Shroud—the narrative considers two other themes: Gove’s views concerning the invention of accelerator mass spectrometry (AMS) and what the author sees as the “exasperating interaction between science and religion” (p. 10). The mass of detail in the volume suggests that the author kept a thorough diary and an archive of documents from the very beginning of the events he recites and interprets. Examples of such a record are the minutes of the many phone calls placed or received by Gove in conjunction with his Shroud adventure.

Gove reports that his direct involvement began in June 1977 with a letter from an Anglican clergyman inquiring about the possibility of dating the Shroud using the recently announced AMS method. A series of informal meetings, formal conferences, and negotiations followed. In February 1979, a request sent to the Archbishop of Turin on behalf of a group of labs, of which Professor Gove was the spokesperson, offered to date the Turin Shroud using milligram amounts of fabric. In August 1985, a protocol setting out the approach to radiocarbon-dating the Shroud was developed. One of the provisions of the protocol was that six laboratories—five AMS labs including the University of Rochester and one microcounter decay-counting laboratory—were to take part. Following a series of further discussions, the Archbishop determined in October 1987 that only three AMS laboratories—not including Rochester—had been selected to date the Turin Shroud. Despite protests over this reduction initiated by Professor Gove, including an appeal to the Pope and a request that the

senior Senator from New York ask the United States representative to the Vatican to make inquiries, samples were removed in April 1988 and the three AMS laboratories undertook their measurements.

In telling the tale of ^{14}C -dating the Turin Shroud, the author offers a commentary on the origins of AMS technology. In his view, AMS was “invented in 1977 at the University of Rochester’s Nuclear Structure Research Laboratory. . . . It was also conceived independently at the Lawrence Berkeley National Laboratory in California” (p. 7). In several other places, “invented” (pp. xiii, 233, 320) or “invention” (p. 10) is used to describe the role of the Rochester group. Future historians of science interested in the reconstruction of the discovery process in the development of AMS technology might consult Professor Gove’s “Cast of Characters” entry in the book under D. E. Nelson (Simon Fraser University) where Gove states that Nelson “carried out the first measurements of carbon-14 in natural material virtually simultaneously with the group at the University of Rochester” (p. 316); also, the entry under R. A. Muller (University of California at Berkeley), which notes that Muller “invented the idea of radiocarbon dating by accelerator mass spectrometry independently of and virtually simultaneously with the University of Rochester group” (p. 316). There is also the information contained in and the dates of submission of the earliest papers appearing in the open scientific literature (Nelson *et al.* 1977; Bennett *et al.* 1977). It might also be helpful to compare and contrast statements in *Relic, Icon or Hoax?* with material included in a previous chapter-length treatment by Professor Gove on the development of AMS technology (Gove 1992).

With respect to the relationship between science and religion in the context of dating the Shroud, Gove quotes a newspaper article to the effect that Pope Paul VI called the Shroud “the most important relic in the history of Christianity” (p. 233). That statement surely does not do justice to the complexity of the actual situation with respect to relics in the western Christian tradition as a whole—and even in the Pope’s own church. Despite cults and cult-like groups having adopted the Shroud, most Roman Catholic authorities have persistently refused to declare it authentic. Such a stance began in the decade of the first public display of the Shroud in the 1350s, when a local bishop is reported to have declared that the image of a crucified man appearing on the cloth had been recently painted by a local artist. The alleged corrupting nature of relics in the late Medieval church was one issue that split western Christendom at the time of the 16th century Reformation and this tradition has been passed down in all mainline Protestant groups. Only a small minority within the theologically fundamentalist segments of contemporary Christianity—Catholic and Protestant alike—support attempts to provide “scientific” data to buttress traditional religious convictions concerning such objects as the Shroud. It is from these groups that most of the continuing objections to the validity of the ^{14}C results on the Shroud ultimately appear to derive. Their common approach is to obtain scientific data in an attempt to “objectivize” religiously based positions.

It is interesting to reflect that few samples of actual or purported direct religious import have been subjected to ^{14}C dating. The dating of “Noah’s Ark” wood by six ^{14}C labs in the 1970s (Taylor and Berger 1980) represents an exception. Obviously, ^{14}C values can provide definitive results only in the negative, since, even if a 1st century AD date for the Shroud had been obtained, that result alone would have only circumstantial bearing on the alleged provenience. The tradition of avoiding the dating of religiously oriented samples can be traced back to the beginning of ^{14}C studies in the Chicago laboratory—apparently due more to James Arnold’s concerns than to those of Libby (J. R. Arnold, personal communication). The series of events associated with ^{14}C dating the Shroud showed the wisdom of the pioneering researchers on this point. As Professor Gove’s book vividly illustrates, such high-profile samples bring out into the open less-than-ideal behavior on the part of some members of the scientific community as well as those who have a strong ideological interest in an object being dated.

This is a stimulating book that, most of the time, carries a reader along with fascinating detail. Unfortunately for the general reader, there is no discussion of the scientific basis of radiocarbon dating, and it would have been helpful to have a bibliography listing some of the earlier literature on the Shroud. This volume is not the definitive work on this topic. However, it contains a wealth of information on what, to the general public, is probably the most famous sample dated by the ^{14}C method.

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