

## SO HOW COULD THE CARBON DATING BE WRONG?

### 1. The Contamination Theory

In the wake of all the rumours of a mediaeval date, the Society's textile specialist John Tyrer has been making some enquiries whether, in the wake of the 1532 fire, it may have been impossible for the carbon dating laboratories' pre-treatment procedures to have removed all potentially misleading forms of contamination. This is his report:

In 1532 the Shroud was being kept inside a silver casket stored in the Sainte Chapelle, Chambery, when a fire nearly destroyed the building. The intense heat melted a corner of the casket, scorching the folded linen within, and producing the now familiar scorch marks on the Shroud.

Since silver melts only at 960 degrees centigrade, the heat inside the casket must have been intense. In these circumstances moisture in the Shroud would turn to steam, probably at superheat, trapped in the folds and layers of the Shroud. Any contaminants on the cloth would be dissolved by the steam and forced not only into the weave and yarn, but also into the flax fibres' very lumen and molecular structure.

The Shroud is now known to contain all kinds of contaminants, including microscopical fungi and insect debris as well as pollens and dust of all kinds. Furthermore the carbon test sampling appears to have been taken from an area where the Shroud would be handled and held during displays by hands soiled with perspiration and grease [Detailed information about Shroud contaminants has been given by Meacham in his article for *Shroud Spectrum* no. 19, June 1986, and for the 1986 Hong Kong Symposium on the Turin Shroud].

Under the circumstances, contaminants would have become part of the chemistry of the flax fibres themselves and would be impossible to remove satisfactorily by surface actants and ultrasonic cleaning. More drastic treatments to destroy the contaminants would inevitably damage the flax fibres themselves.

It would seem likely, therefore, that the carbon 14 content of the Shroud will have been 'topped up' by the addition of contaminants that were in it in 1532 from organic substances that were much younger than the Shroud. For this reason the Shroud could easily be substantially older than the carbon dating suggests.

In fact, bear in mind the thermal history of the Shroud and the folded way in which it has been stored, carbon dating procedures would seem an unsuitable way of assessing its age.

John Tyrer, C. Text., A.T.I., A.M.T.C.  
10 Park Crescent, Victoria Park  
Manchester M14 5RE

[In support of John Tyrer's argument, it should be noted that during the British Museum's inter-comparison experiment of 1985, inadequate cleaning by the Swiss laboratory resulted in Egyptian linen being dated some 1,000 years too young. And this was without any suggestion of involvement in a fire.]

## 2. The Radiation Theory

On 22 September, three weeks before the official announcement of the results, the following letter was published in *New Scientist*. The writer has no known connection with the B.S.T.S.:

Concerning the shroud of Turin, it appears that everyone is expecting the recent carbon dating tests to come up with the real age of the shroud, give or take a few years. However, one important aspect about the shroud may invalidate the carbon dating tests.

If we start from the proposition that the shroud is genuine, then we must ask the question: how did the image get on the shroud? A burst of energy resulting from the resurrection has been suggested in the past. If this was so, then it is perfectly feasible that this release of energy resulted in the activation of stable isotopes of carbon and oxygen, and produced more of the radioactive carbon-14 than was already present naturally in the shroud.

Carbon dating works by measuring the amount of carbon-14 present in an object; but there is a fundamental assumption that the carbon-14 got there by natural processes, so when researchers look at the shroud today, if there was any extra carbon-14 present due to a resurrection energy release, this would give the appearance that the shroud was younger than it really is.

Specifically, if the recent press leak is to be believed, the results of the carbon dating tests appear to date the shroud at about AD 1350. However, if energy released in the resurrection process activated an extra 18 per cent of carbon-14 compared to that present naturally in the cloth, the shroud although being 2000 years old would appear to be only 650 years old. And it is certainly possible to produce that amount of carbon-14 via a short burst of high energy.

Let me clarify that I am not trying to prove that the shroud is genuine - all I am attempting to point out is that the carbon dating test could in this case give a totally misleading result due to the very nature of the shroud.

Bryan Kelly,  
Warrington, Cheshire

Bryan Kelly's argument has been discussed with Dr. Robert Otlet of Harwell, who confirms that the idea is indeed feasible, and that a one per cent increase represents 83 years. Indeed, the same possibility was reluctantly admitted by Professor Hall at the British Museum press conference, although he immediately added that this was of course asking for some non-natural event. In the wake of the announcement of the results, a letter with a similar suggestion has been received from Professor Eberhard Lindner of Karlsruhe, West Germany:

In my opinion it is too early to say that the [carbon dating] results are clear, because the higher level of carbon it which has been measured could have been caused by two different factors: (1) that the Shroud really was made in the fourteenth century, or (2) that the radioactivity of the original material was higher than the norm, so that while today it may appear to be merely six hundred years old, the true date is still possibly that of the time of Christ.

A higher radioactivity level is not the normal, natural content of carbon 14, because we can routinely check some radiocarbon dating results against dendrochronological [tree-ring] datings.<sup>1</sup> A higher initial amount of carbon 14 may however be possible if we assume a degree of neutron radiation during the event of the resurrection of Christ, when the crucified corpse 'dematerialised', there could have been some form of radiation which turned the isotopes carbon 12 and carbon 13 into carbon 14.

How could neutron radiation occur in this way? One possible theory is that Christ's body effectively became changed into 'nothingness'. In effect, the matter forming the body was de-created, essentially a reversal of the manner in which God created matter from nothing at the dawn of time. Conceivably, in a small number of atoms on the surface of the corpse the protons disappeared, and in this manner the electrons of the atoms gave out a directed "electron radiation" which produced the very cellulose degradation that many investigators<sup>2</sup> see today as responsible for the body image. We can see the same effect by way of simulation experiments using X-rays<sup>3</sup>, and an accompanying electrical discharge could also have been responsible for the hypothesised image of coins over the eyes<sup>4</sup>. Finally the remaining neutrons were 'captured' by other atoms, and in this way the carbon 14 was built up from carbon 12 and carbon 13.

It is possible to test this theory by isotope analysis of the cellulose of the Shroud. The atoms of oxygen and hydrogen in the cellulose must have been transformed into the higher isotopes O<sub>17</sub>, O<sub>18</sub> and H<sub>2</sub>. If one can find a higher amount of these isotopes than normal, this would not only be verification of the theory given here, but would provide a new and unexpected impetus for research into the very manner of Christ's resurrection. The amounts of C<sub>14</sub>, O<sub>17</sub>, O<sub>18</sub> and H<sub>2</sub> should be higher near the body image than on the borders of the cloth, and it would be marvellous if one could test the Shroud to this end.

In my view, therefore, the statement from Turin that the Shroud is of the fourteenth century, and thereby a forgery, is a premature conclusion which conflicts with more than twenty other points of evidence leaning towards authenticity. The results of prior investigations into the origin of the image simply cannot be disproved using merely one research method, and an ambiguous one at that.

Prof. Dr. Eberhard Lindner,  
Jahnstrasse 22, 7500 Karlsruhe 1, W. Germany

#### References:

- [1] Hans E. Suess, "A Calibration Table for Conventional Radiocarbon Dates", in R. Berger, H.E. Suess, *Radiocarbon Dating*, University of California Press, Berkeley & Los Angeles, 1979, pp.777-784;
- [2] Eric E. Jumper et al, "A Comprehensive Examination of the Various Stains and Images on the Shroud of Turin", *ACS Advances in Chemistry, No. 205, Archaeological Chemistry III*, [1984], pp.447-476;
- [3] Giles F. Carter, "Formation of the Image on the Shroud of Turin by X-Rays: A New Hypothesis", *Archaeological Chemistry III* [op. cit], pp.425-446;
- [4] Oswald Scheuermann *Das Tuch*, Friedrich Pustet, Regensburg, W. Germany, 2nd. ed., 1983.

[Professor Lindner is author of *Evolution - Weltende -Freiheit*, Karlsruhe, 1988]