Remarks on the article 'Radiocarbon dating of the T.S.' in NATURE, 337, 16 February 89, 611-14

By Andre van Cauwenberghe

Translated by Dr. Daniel Scavone. "[ ]" are translator's inserts.

When one analyzes the distribution of one variable *[read, e.g., C14]* with a whole *[read, e.g., Shroud]* by measuring samples taken from the whole, the homogeneity of the samples with reard to the variable is an essential condition of how representative they are, in terms of the variable n question, of the whole being studied.

The test of Pearson (calling the variable x^2) is precisely conceived to verify the homogeneity of samples with regard to a given variable. It permits us to learn how representative of the whole the samples are.

A value of 6.4 of variable x^2 (with 2 degrees of freedom) *[does this mean plus/minus 2 %]* obtained by measuring the variable in question on 3 samples allows us to affirm (by the very way the test is constructed) that:

"There are 957 chances in 1000 [a 95.7 % likelihood] that the 3 samples are heterogenous (i.e., different) as far as the variable in question,

and therefore

"There is a 95.7 % likelihood that the 3 samples are not representative of the whole."

This is precisely the value *[6.4]* of the C14 content of the Shroud, as revealed in Table 2 of the NATURE article, "Summary of mean radiocarbon dates and assessment of interlaboratory scatter."

WE CAN THUS AFFIRM: "There is a 95.7 % likelihood that the samples sent to the 3 labs are not of the same radiocarbon date (i.e., do not have the same C14 content)."

WE CAN ALSO AFFIRM: "The samples sent to the 3 labs are not representative of the whole piece of linen."

It would thus appear wrong to pursue the statistical report *[the NATURE article]* in evaluating the characteristics of distribution of the variable *[C14]* when the test of homogeneity is clearly negative for the 3 samples taken from the Shroud, the estimates being devoid of significance.

In our monthly Letter no. 2 the entire C.I.E.L.T. group signed a statement that the "Shroud cloth" tested did NOT come from the Shroud. Crispino and Evin wish their names removed from this statement as it has in no way been proved.

I myself do not doubt the honesty of Gonella or Ballestrero, or of the others involved. But the Paris Symposium did raise contradictions which must be confronted: it seems that one cloth was

analyzed by Zurich and Arizona, and a different one by Oxford. See the 2 articles in that same Letter No. 2. Science cannot prove this, but I affirm again, an explanation must be found."