

Evidence and Hypothesis: The Shroud of Turin

Supplementary Material for CFB3333/PHY3333
Professors John Cotton and Stephen Sekula
January 30, 2012

Based on the following information on the web:

<http://www.physics.smu.edu/pseudo/Shroud>

But first . . .
access to “Excellent Papers” for Homework 2!

But second . . .

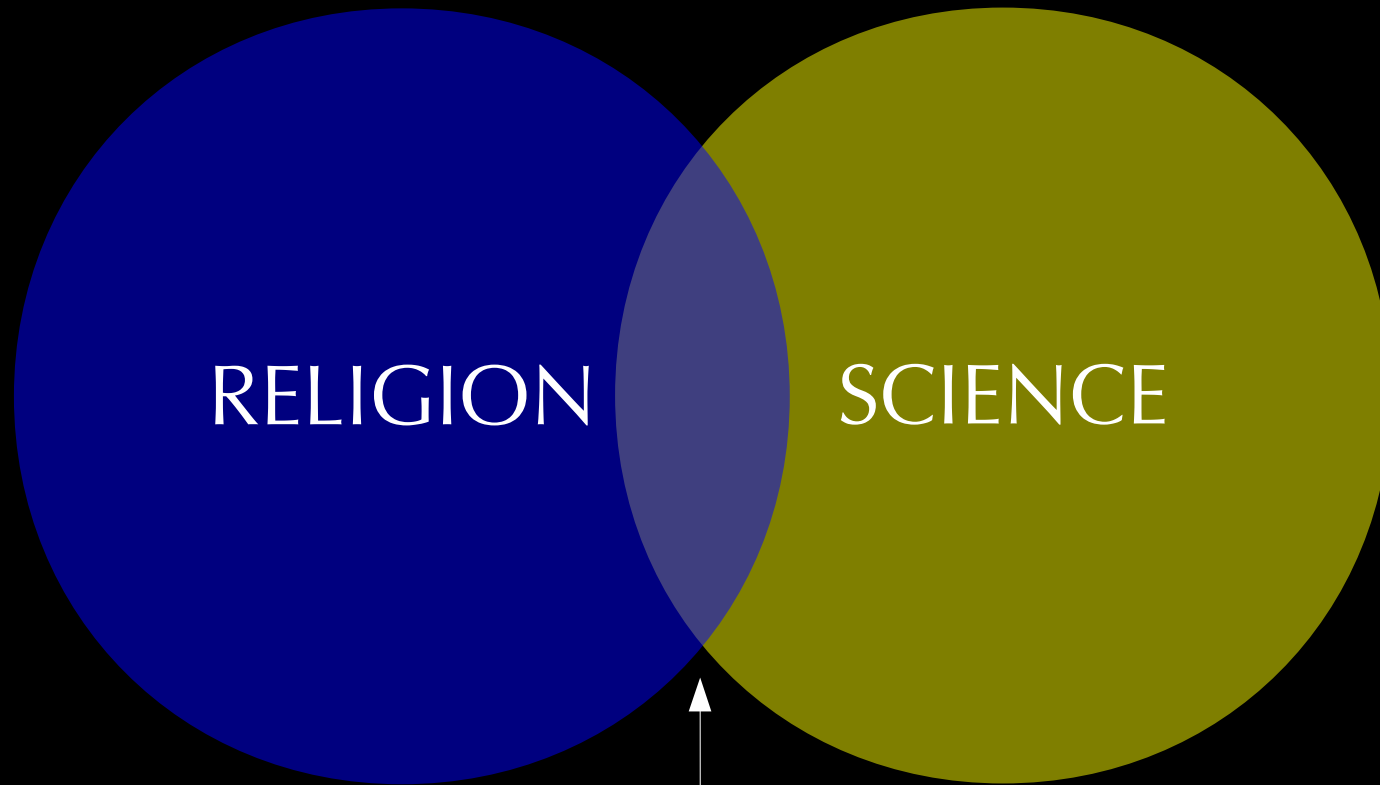
A Personal Essay from Profs. Cotton and Sekula



RELIGION



SCIENCE



I find that confusion, misunderstanding, fights, etc. only occur when we try to make these two things intersect. Intersecting religion and science doesn't always lead to problems, but problems can happen when somebody tries to make two dissimilar things fit together.



RELIGION

SCIENCE

Anti-
religion

Pseudo-
religion

Pseudo-
science

Anti-
science

These red circles don't have to live at the intersection of religion and science; in fact, often they can be found off on their own, causing trouble for both religion and science. But they can also be produced by the intersection of religion and science, and they do no good for either institution.

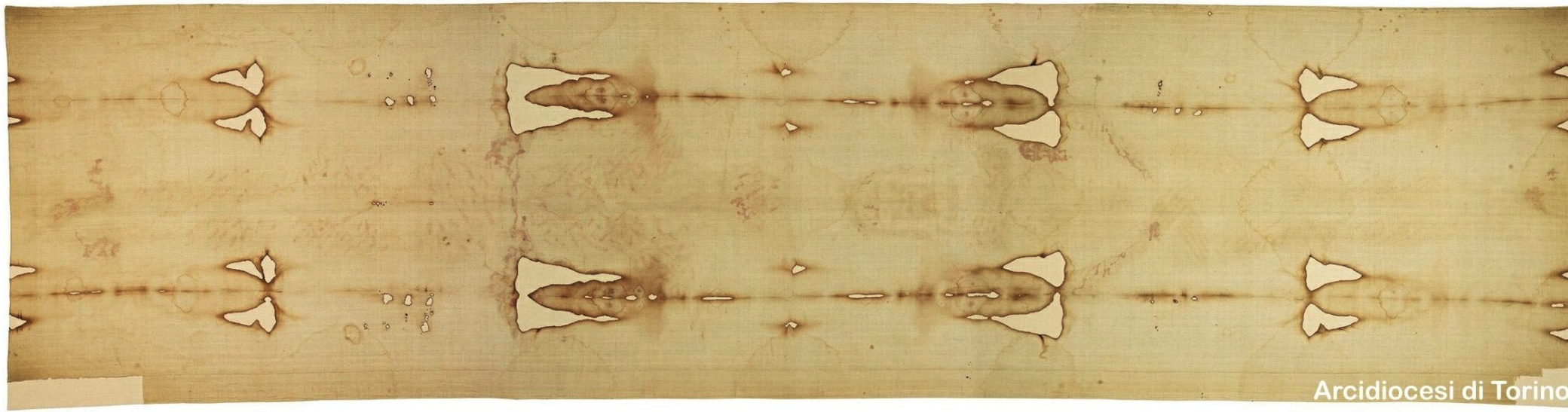
My Personal Statement

- When people make testable/falsifiable claims, the scientific method can (and should) be applied to them
 - a strong religion isn't based on individual claims of a testable nature; a strong religion is based, at least in part, on a core theology which likely cannot be tested and isn't threatened by the scientific process
- However, when people insist that science and religion have to overlap, we get into lots of trouble
 - constructs of any kind (religious or otherwise) cannot be the basis of an evidence and experiment-based approach to understanding the natural world (the scientific method). Constructs weaken science, and in fact act against the definition of science.
 - science cannot (nor should it try to) prove or disprove the axioms/tenets at the core of a religion, because they are spiritual/supernatural by definition. Science, for instance, cannot disprove the existence of miracles; all it can do is assess the claim of miraculousness and put it in context with other "rare" or "miraculous" occurrences

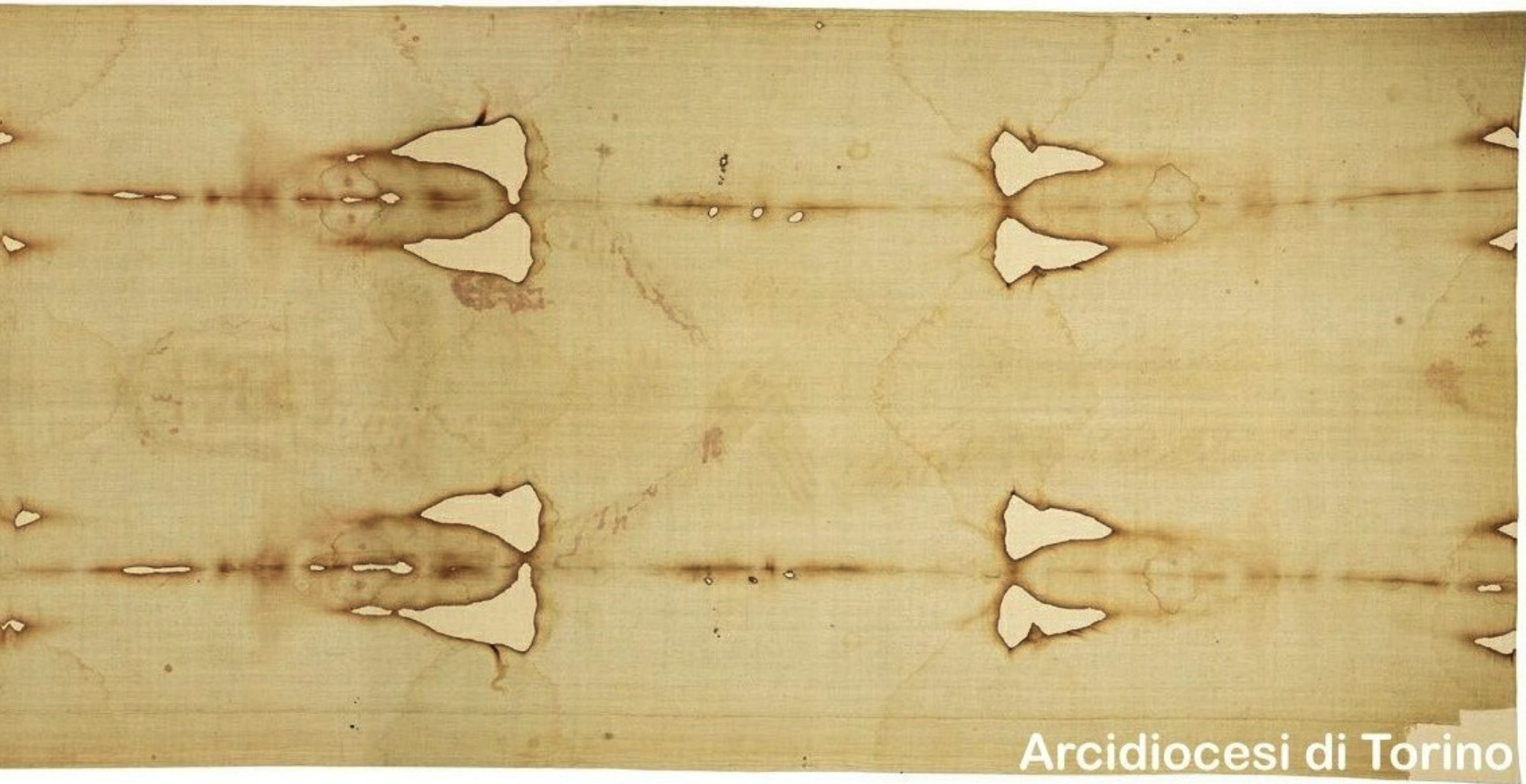
A Final Word

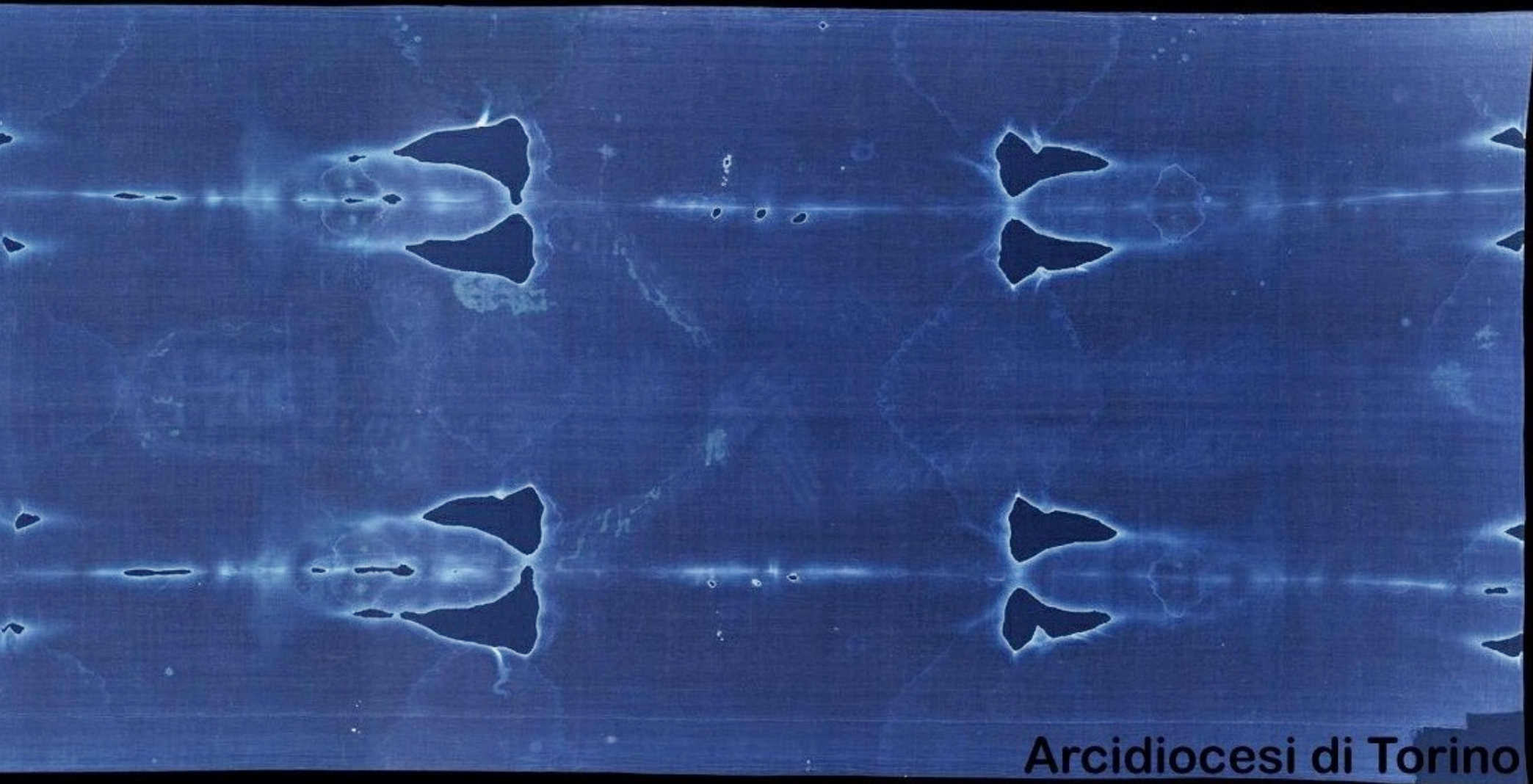
- We are going to investigate many claims of a testable/falsifiable nature in this course
 - some of them will bear on religion or other belief systems
 - do not confuse or conflate the scientific process with “anti-religion,” nor confuse religion for “anti-science.”
 - do not be threatened by a clearer understanding, through science, of testable claims
 - we are learning how the scientific method works, and through different topics how it is mis-used, twisted, and/or mis-represented
- you may believe in whatever you like
 - beliefs based on testable hypotheses may, as a result, be challenged; use this as a chance to understand how science informs decisions.

OK, finally! . . .
The Shroud of Turin

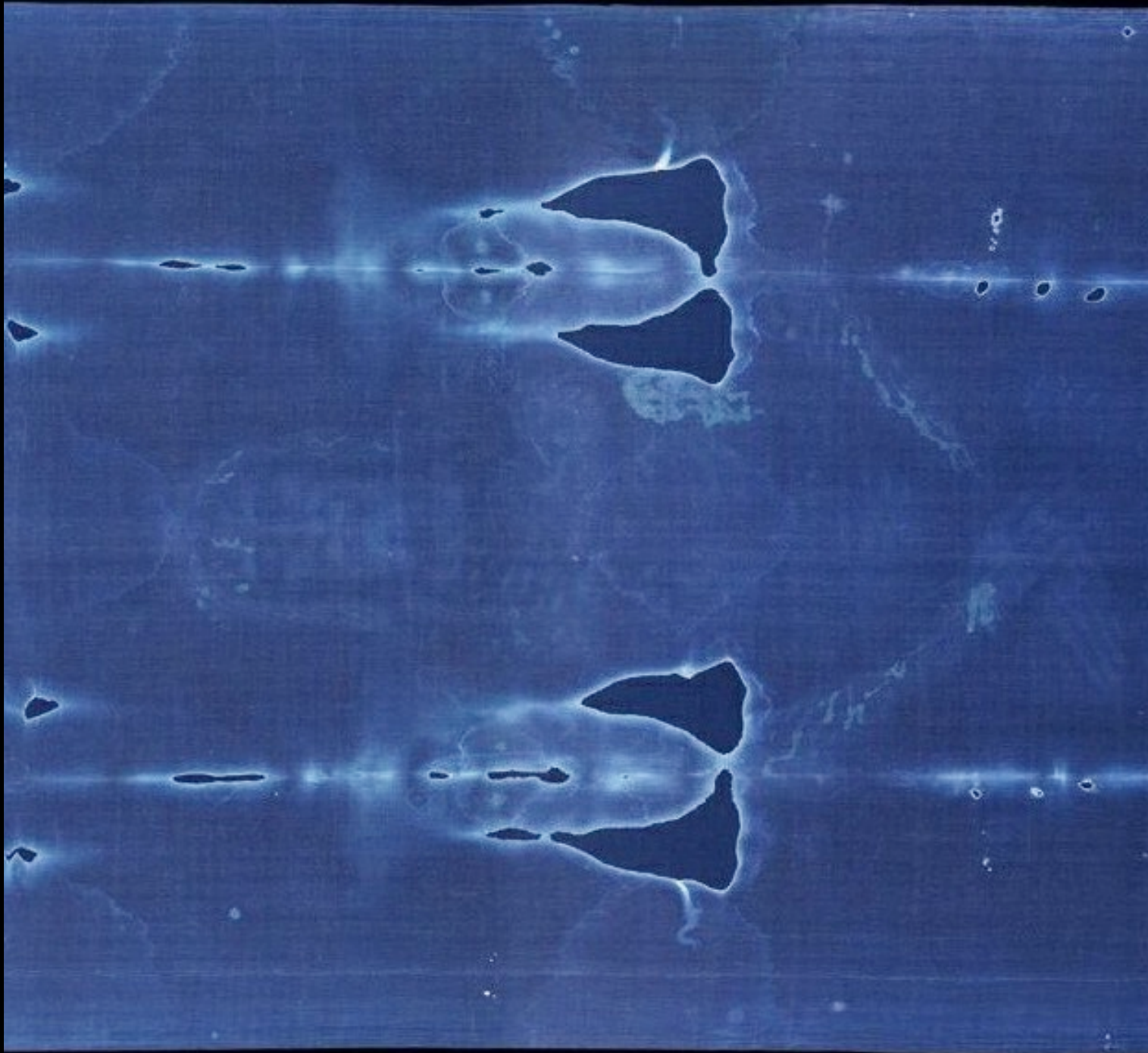


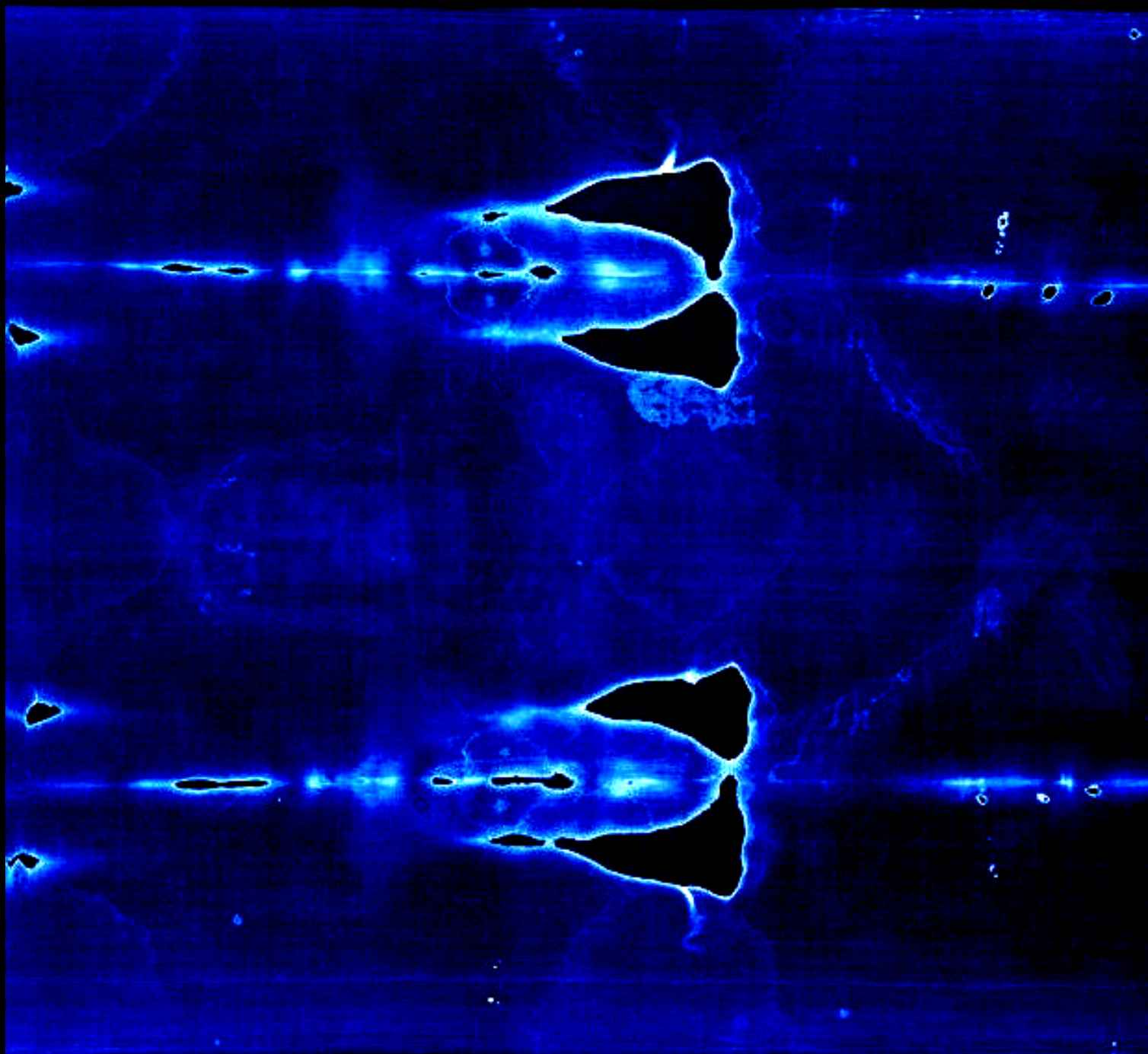
Arcidiocesi di Torino

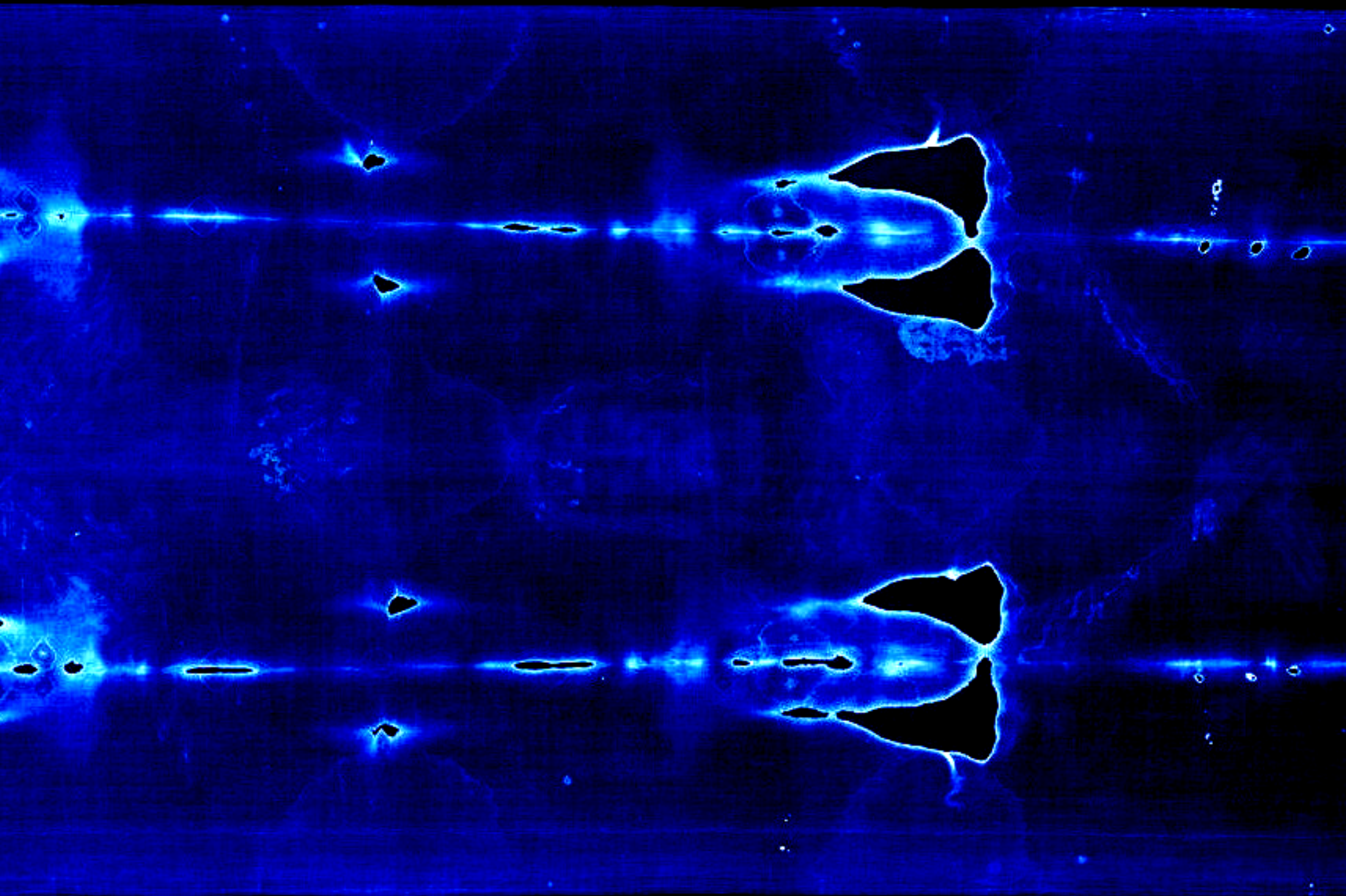




Arcidiocesi di Torino







Some Notes on the Shroud

- Records of the shroud (its “provenance”) point to its appearance in 1356 (note from the Bishop is indicative of its appearance at this time)
- The “blood” on the shroud fails all forensic blood tests so far applied and is chemically consistent with paint
- The image is not one that would result from a real 3-D person
- Carbon dating of select pieces of the shroud determined its age to be consistent with the records that have it appearing in 1356.
- Textile found in tombs dating back to the time of Jesus Christ are chemically inconsistent with the shroud

Evidence and the Shroud

- Evidence can only determine that the shroud is not authentic with 100% certainty
- Evidence cannot determine that the shroud is authentic with 100% certainty
 - for instance, if someone had some cloth with DNA on it from a burial tomb in Jerusalem from ~30A.D., they could make a better fake.