

DESIGN IN THE SHROUD OF TURIN

**PHILLIP H. WIEBE
PROFESSOR OF PHILOSOPHY
TRINITY WESTERN UNIVERSITY
LANGLEY, BRITISH COLUMBIA**

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Introduction

Controversy continues to surround the Shroud of Turin. The carbon dating tests conducted in 1988 that yielded a medieval date convinced many that it was not the burial cloth of Jesus Christ. However, the information that continues to be gleaned from the Shroud suggests otherwise. A recent theory that explains many of the Shroud's perplexing properties presents information that allows an argument from design to be developed, which is reminiscent of other design arguments in natural theology. This argument is new to natural theology, to my knowledge, and really requires giving more attention to the Shroud than I can provide in a short paper, but I will sketch the necessary information about the Shroud needed to advance it.

The theory I will examine is of particular interest if the Shroud is not an art object. The evidence suggesting that it is not is impressive, and has been advanced by others. I will not review this evidence here, however.¹ The theory embedding the design argument that I will advance claims that the Shroud finds its origins in some process associated with the body of a Man, apparently killed by crucifixion, that once lay in it. This theory does not assume that the Man was Jesus.

¹ I have outlined some of the most impressive reasons in an Appendix.

The Theory of “Weak Dematerialization”

Physicist John Jackson, long associated with research into the Shroud, has conjectured that the body of the Man in the Shroud “became mechanically “transparent” to its physical surroundings,” and that “a stimulus was generated that recorded the passage of the cloth through the body region onto the cloth as an image.”² This stimulus, described as “radiation emitted at all points within that body” interacted physically with the cloth to produce the discolorations that form the main Image. This radiation left its imprint on the cloth to form the frontal and dorsal Images. Jackson notes that the somewhat flatter dorsal Image does not quite exhibit the “blended, continuous shading structure that ... contains a correlation with presumed cloth-body distance” of the frontal Image.³ This feature of the frontal Image, he says, resulted from that half of the Shroud that covered the body falling through the residue of the Body to add to the frontal Image. Jackson postulates two processes for the formation of the frontal Image, and one for the dorsal Image. He acknowledges that this conjecture lies outside normal science.

Physicist and historian of science, Thaddeus Trenn, describes the essential element in Jackson’s somewhat obscure account as “weak dematerialization,” and

²John P. Jackson, “An Unconventional Hypothesis to Explain all Image Characteristics Found on the Shroud Image,” p. 328.

³ *Ibid.*, p. 331.

hypothesizes that the nuclei of the atoms constituting the body of the Man once enfolded by the Shroud broke apart by the action of some unknown force that was capable of overcoming the strongest force known in nature, viz., the strong nuclear force.⁴ The freed subatomic particles left their “imprint” on the cloth, so that the color variations that form the Image resulted from the number of subatomic particles that impacted the cloth: the fewer the number of particles, the lighter the Image (on the original cloth), and the larger the number of particles, the darker the Image. Jackson’s theory, as developed by Trenn, conjectures that the strong nuclear force within the atoms comprising the body of the Man was simultaneously turned off, and that electromagnetism and gravity were left intact.⁵

Jackson and Trenn claim that this theory can explain several important features of the Image not otherwise explained, viz., the three-dimensional character of the Image and its pixel-like, pointillistic features; the fact that the Image does not appear to penetrate through the cloth but is only on one of its surfaces; the absence of side images of the Man; the chemical nature of the Image; the differences in the locations of some of the blood residues (e.g., on the hair) and the correlated areas of the Body from which the blood appears to have originated; the presence of blood-impregnated fibers that exhibit no evidence of fraying; the vertical alignment of the Image and associated body parts such as the

⁴ “The Shroud of Turin: Resetting the Carbon-14 Clock.”

face, legs, and hands; the apparent trace of a thumb folded into the palm; the elongated fingers, apparently deriving from a fold in the Shroud; images of off-the-body objects such as flowers, and coins (perhaps) over the Man's eyes; and images of bones, e.g., finger bones.⁶

The absence of torn fibrils in the areas impregnated with blood IS interesting in itself, as evidence for this hypothesis about weak dematerialization. Many researchers now agree that human blood is on the Shroud, some of which appears to have been transmitted to the cloth by contact with the Man. The obvious blood stains in the area of the wrists and forearms, for example, appear to have gotten onto the cloth by the cloth resting upon the arms. A problem now arises in connection with the tiny fibrils comprising the threads of the blood-impregnated cloth, for these are not torn. It is reasonable to suppose that the blood that was in contact with the cloth dried, thereby causing the body to stick to the cloth. Three possibilities present themselves: (a) the body rotted, (b) the body was moved, and (c) the body "disappeared," perhaps in the manner conjectured by Jackson and Trenn. The first two possibilities are improbable, however.

If the body rotted then each molecule composing it slowly underwent chemical change, finally resulting in the body falling away in a manner that would

⁵ Private communication from physicist Robert Wood, July 5, 2000.

⁶ Some of these items are in dispute, e.g., the coins and the vertebrae. The outlines of vertebrae would give the Shroud properties of X-ray film.

not tear the thread fibrils. However, the decomposing body would surely have left some evidence of rot on the cloth lying under the body. Since no rot on the cloth bearing the dorsal Image exists, the first possibility is rendered implausible. The second possibility is that the body was removed from the Shroud and perhaps placed in something else. However, the act of removing the body, some parts of which would be stuck to the cloth by the dried blood, would tear the blood-impregnated fibrils. The absence of torn fibrils suggests that the body was not taken out of the Shroud. It might be objected here that the body might have been taken out of the Shroud before the blood in contact with the cloth had a chance to dry. But then it is difficult to understand how the detailed Image of the Man on the Shroud could have been formed, for, according to this suggestion, the Man would have been in the Shroud only for only long as it takes blood to dry, probably an hour at most. This response is admittedly speculative, for no mechanism by which the Image might have been formed is presently accepted by those most closely associated with research into the Shroud, but it is difficult to conceive of an Image forming so quickly that the blood did not have time to dry.⁷ The third possibility is that the body somehow “disappeared,” perhaps by weak dematerialization.

⁷ Ian Wilson has discussed the remarkable images of plants resulting from having been pressed undisturbed for many decades, in *The Mysterious Shroud*, p. 114f. These images are very detailed and three-dimensional, but they took many years to be produced.

Trenn argues that the theory in question postulates a “radiation event” that could account for the medieval carbon dating claimed in the 1988 test, for the theory implies that freed neutrons from the nuclei would have converted some of the nitrogen in the Shroud into carbon-14, thereby producing sufficient additional amounts of this isotope to make the Shroud look medieval rather than ancient.⁸ Trenn observes that this theory is testable, for an implication is that the carbon-14 amounts would vary over the surface of the cloth. Cloth in the immediate vicinity of the Image would have a higher concentration of carbon-14 than cloth on the edges. This implication has not been tested over the entire Shroud, to my knowledge. The theory’s testability is sufficient to render it scientific — at least on certain views of what constitutes science. Moreover, its capacity to explain many features of the Image is sufficient reason to give it serious consideration.

The purpose of this essay, however, is not primarily to describe the basis for this theory’s feasibility, but to discuss the way in which the conjectured dematerialization suggests an argument from design.

Evidence of Design

The theory under examination conjectures that one specific Man dematerialized. It claims that the Shroud in which the Man was wrapped, although pressed against his body, did not dematerialize along with the body. Jackson and

⁸ The possibility that the Shroud was irradiated by neutrons was briefly discussed by physicists

Trenn do not specifically comment on whether any other objects that might have been near or on the Man's body⁹ might have dematerialized, but I take them to suggest that nothing besides the body of the Man depicted on the Shroud underwent this remarkable form of dissolution. This is the feature of the proposed theory that suggests a design argument.

The Shroud would be unique, if the theory in question were to be correct, for no object from any time in history seems to have had a similar origin. The Shroud appears to be unique in any case. Similarities have sometimes been drawn between the Shroud Image and the images on concrete walls of Japanese people obliterated by nuclear blasts in World War II. However, the latter images do not exhibit the remarkable details apparent on the Shroud, such as very well defined body parts. Moreover, such obliteration would not be limited to human beings, for any object that happened to be in the vicinity of a nuclear explosion would leave a similar image. These explosions did not discriminate between one object and another, and did not dematerialize only living bodies but somehow exempt the clothing covering their bodies.

No other person seems to have disappeared in the way suggested by this theory of weak dematerialization. Untold billions of people have disintegrated after their deaths in ways capable of being described *molecularly*, but no one seems to

Thomas Phillips and R. E. M. Hedges in *Nature* in 1989.

have disintegrated by having the *atoms* that comprise them break apart. In the suggested dematerialization, a particular individual appears to have been singled out for a special kind of disintegration. This suggests the action of an intelligent being.

The suggested dematerialization is significantly different from that which occurs with the break-up of nuclei in known natural processes. Type II supernovas of large stars, for example, begin with a process in a star in which hydrogen fusion produces helium; further fusion sequences in turn produce carbon, neon, oxygen, silicon, and finally iron.¹⁰ The effect of the process is to increase pressure in the core of the star, which causes the iron nuclei to break up into smaller nuclei. This fragmentation increases the number of nuclear particles, with further nuclear reactions changing the species of nuclei present in the core. This process involves the break-up of nuclei, but it is not directed so specifically as is the process conjectured to have produced the Shroud. The atoms of large, indeterminate masses comprising stars undergo dissolution, not a specific body as we see in the Shroud. Another physical process that involves the fission of nuclei is radioactive decay. This process involves random decay and does not have the precise directedness suggested by the conjectured process resulting in the Image on the Shroud. If only random parts of the body of the Man in the Shroud had

⁹ Such as coins over the Man's eyes, a flower garland, a phylactery on his arm, and other objects.

dematerialized, or only atoms of one kind comprising his mass, e.g., hydrogen atoms, the conjectured dematerialization would not give as strong an impression that a purposive intelligence caused it.

Other Design Arguments

The structure of thought here is describable as an argument, although this should not be uncritically interpreted to mean it fits standard models. The reasoning involved is of course not deductive, but it does not fit enumerative inductive models either. The argument makes use of the background knowledge that only purposive, intelligent, and extremely powerful beings are capable of the kind of precise and highly directed actions hypothesized. However, because the action hypothesized is unique, the structure of the argument is not adequately captured in a standard enumerative induction, which relies on patterns of similar events.

The agency responsible for the disappearance of the Man on the Shroud, given the conjecture under scrutiny, appears to have exhibited a power greater than that known in the physical world, for the theory suggests that the strong nuclear force binding protons and neutrons in their nuclei was overcome. This argument does not specifically require that the source of the conjectured dematerialization had omnipotence or omnipresence or benevolence or perfect

¹⁰ Hans A Bethe and Gerald Brown, "How a Supernova Explodes," pp. 277-91.

knowledge, although such an infinite Being would naturally serve the explanatory requirements. In this respect, the argument is comparable to other design arguments, where design seldom requires an infinite Being.

This design argument can be compared and contrasted with other design arguments that have been proposed in the history of natural theology. Some arguments focus on the patterns discernible in the universe as a whole, such as the temporal patterns found in laws of nature; some focus on patterns found in unique parts of the universe, such as natural cycles found on earth. The design argument from the Shroud is not of either kind. Other design arguments focus on the unique function that a particular object fulfills by virtue of each part more or less fulfilling its unique role, e.g., the comparison that Paley observed between clocks made by humans, and eyes and other complex organs found in nature. The argument from the Shroud is not of this kind either. Still other design arguments focus on the intricacy or beauty exhibited by objects or events, without identifying a unique function such things might serve. The argument from the Shroud is not of this kind either. The anthropic argument, now popular, focuses on the unique physical constants of the universe that make human life possible (and sustain it), contending that the fine tuning required cannot be plausibly accounted for by anything but a supreme Intelligence. The Shroud argument turns in part on the precise way a human being is selected for dematerialization, and so exhibits a

feature found in the fine tuning arguments, but it does not closely resemble this kind of design argument either.

An imaginary design argument perhaps comes closer to capturing the kind of reasoning found in the argument in question. David Hume appears to present an argument in *Dialogues Concerning Natural Religion* that is secondary to the one that occupies most of his attention. Hume has Cleanthes remark that if all people simultaneously heard in their native languages a voice speaking something worthy of a benevolent Being, the origins of such a voice would be immediately known. Philo, Hume's foil, is strangely silenced by this, and seemingly never replies to it in the course of the *Dialogues*.¹¹ Perhaps Hume meant to indicate his sympathy with it. Hume's argument here turns in part on our ability to recognize that intelligent speech of the kind imagined derives only from intelligent beings. Unfortunately, Hume's argument involves an imaginary situation, so its value lies in its capacity to test our logical powers, not in advancing any claim about the actual world. Imaginary arguments often have little relevance to the world as we actually find it, where we have to deal with the information we have, or think we have, however meager or plentiful.

Every design argument has some points on which opponents can plausibly bring pressure. The evidential force itself of an argument is a weakness in some,

e.g., Paley's, but the plausibility of crucial statements is the Achilles' heel of others. The obvious point of weakness in the design argument from the Shroud is that our evidence that weak dematerialization was the mechanism by which the Shroud was formed, while impressive, is not conclusive. However, the conjecture that a very powerful intelligence would be responsible for such an extraordinary event seems highly plausible.

Perhaps we can vary the events slightly to test the claim that the argument itself, apart from its premises, looks strong. If exactly two people had dematerialized in the way conjectured, whether at the same time or at different times in human history, that would not challenge the claim that these are acts of a powerful intelligence. Neither would the claim be challenged if an animal, rather than a human, had dematerialized in the fashion suggested. These results indicate that a significant argument from design is implicit in the Jackson-Trenn theory of how the Shroud was formed.

The Shroud and the Resurrection of Jesus

If the Shroud has its origin in the *medieval* world, and if the Jackson-Trenn theory is a reasonably close account of the mechanism by which the Image was formed, then the Shroud is a portent of an ominous kind. The Shroud would constitute grounds for thinking that some suprahuman power is intent on bringing

¹¹ Nelson Pike discusses this in his notes on Hume's *Dialogues Concerning Natural Religion*, p.

about human dissolution of the most complete kind imaginable, viz., not merely molecular but atomic dissolution. If the Shroud is medieval in origin, we have no idea of who the doomed victim was or why he was singled out for dissolution. The Shroud should then become an object of interest to natural theologians, for it would suggest that the end of human existence might have begun, albeit in a rather unexpected way. We might legitimately speculate about who might be next to be singled out for such a remarkable dissolution.

The Shroud takes on quite different significance, however, if it is *ancient* in origin, if the Jackson-Trenn theory about its origins is reasonably close to being correct, and if it can be linked to Jesus.¹² The Shroud might then possibly provide a portion of the basis for defending the Christian claim about his Resurrection, and thus become part of natural theology. The Resurrection is usually represented in Christianity as a new kind of creation, thereby forming a counterpart to the original Creation, now flawed, for which conventional design arguments have been developed.

34 (Part III).

¹² I consider the claim that Jesus was resurrected to be an empirical claim, and to have implications for natural theology for that reason. Asserting that this was the death of God, and that it has redemptive value, however, is to enter the domain of revealed theology. I restrict my remarks here to natural theology.

The Shroud would not itself be complete evidence for the Resurrection on the Jackson-Trenn theory about its formation, however.¹³ An adequate argument for a resurrection requires showing (a) that the person in question was truly dead, not merely comatose, (b) that the person's corpse no longer exists, and (c) that a living being identical to the person who died has come into existence.¹⁴ On the Jackson-Trenn theory the Shroud does not contribute anything to the third of these requirements.¹⁵ It is directly relevant to the first two of these evidential issues, however.

Few theologians now suggest that Jesus was not dead when he was taken off the cross, although this idea still does emerge occasionally.¹⁶ According to the theory under scrutiny, however, even if Jesus was not dead when he was placed in the Shroud, the conjectured weak dematerialization would bring about a death even more "complete" than that ordinarily experienced, for it hypothesizes not merely molecular but atomic dissolution. The effect of death in ordinary

¹³ This claim seem to go contrary to conventional views about the Shroud among those who consider it to depict Jesus. The conventional view is that the Shroud was produced by some kind of "radiance" from the resurrected body. It garners support from research into the Shroud during the 1970s that suggested that the color variations making up the Image were similar to the color variations in the burn marks plainly present on the Shroud. But, according to Wilson (*The Mysterious Shroud*, p. 146) when the Shroud is irradiated with ultraviolet light, the burn marks fluoresce red, but the Image does not, indicating that the two have different sources. This result also refutes the rather implausible suggestion that the Image might have been formed by placing the cloth over a hot statue.

¹⁴ In the case of the Resurrection, according to Christian orthodoxy, we would also need to offer evidence that the resurrected Being lives an indestructible life.

¹⁵ I have discussed the significance of post-Resurrection appearances in *Visions of Jesus: Direct Encounters from the New Testament to Today*.

circumstances is that the molecules forming the dead body eventually disintegrate to become part of the larger universe from which these molecules were originally drawn. If *molecular* dissolution is a sound basis for considering someone dead, a body that underwent *atomic* dissolution should also be counted as having died.

The second issue facing proponents of the Resurrection is the far more pressing one of showing that the corpse of Jesus went out of existence.¹⁷ The empty grave is usually taken as evidence of this claim, but its evidential force is weak. Defenders of the Resurrection really need to show that no place in which a body could have been hid contained the corpse of Jesus, but this is a demand they cannot normally meet.¹⁸ The universal character of this claim makes it impossible to verify in normal practice. On the Jackson-Trenn theory, however, the Shroud provides evidence for the claim that the corpse of Jesus went out of existence. On this theory, the Shroud offers evidence for two of the three crucial elements implied by the claim that a Resurrection took place. This is an important achievement, for two centuries of biblical criticism, much of it directed against the Resurrection, in conjunction with increased standards of evidence as science has been incorporated into all forms of critical thinking, have undermined confidence both inside and outside the Church that the Resurrection ever occurred.

¹⁶ As in the recent book on the Shroud by Holgar Kersten and Elmar Gruber, *The Jesus Conspiracy: The Turin Shroud and the Truth about the Resurrection*.

¹⁷ Gerd Ludemann, author of *The Resurrection of Jesus: History, Experience, Theology*, is a recent New Testament scholar who argues that the corpse of Jesus decayed like any other (p. 180).

Conclusion

Most design arguments purport to show that the universe had a Creator (perhaps also a Sustainer of life) in the distant past. The design argument from the Shroud, however, on the Jackson-Trenn theory, shows that some intelligent, purposive, and very powerful agent has acted in a specific event in comparatively recent history. If the Shroud is medieval rather than ancient, we are confronted with a mystery that portends the end of human existence. If the Shroud is ancient rather than medieval, we would probably understand more of the creative event that Christians call the Resurrection. In either circumstance, the Shroud presents an argument from design.

¹⁸ The apostles who witnessed to the Resurrection could not have done so either.

APPENDIX

The evidence indicating that the Shroud was not produced by an artist includes the following items:

1. Hungarian artist Isabel Piczek, who has painted the human form, often on large murals, for more than forty years, says that the anatomical perfection exhibited on the Shroud could not be painted today, even with the aid of a camera. The color variations that form the Image are all done without any visible outlines on the cloth, and in such a way that light and dark are reversed.¹⁹
2. The color variations on the fibres that form the Image are so delicate that if the Image was painted, an artist would have to have used a brush with only one hair in it, and that thinner than a human hair.²⁰ The optimal viewing distance is six to ten feet away, and at less than six feet the Image almost disappears.²¹ An artist would have to have stood a considerable distance away to produce even a slightly plausible figure — all in the form of a photographic negative.

¹⁹ Ian Wilson, *The Blood and the Shroud*, p. 21. The anatomical perfection is not quite present in the elongated fingers, however, as some commentators on the Shroud have noted. Jackson considers this elongation of the fingers to be a result of the fact that the knees of the Man were slightly elevated, so that the area of the Shroud covering his hands, which were at the Man's hips, might not have fallen straight down.

²⁰ Wilson, *The Mysterious Shroud*, p. 113, quoting chemistry professor, Alan Adler.

²¹ Frank C. Tribbe, *Portrait of Jesus?* p. 175.

3. The fibres of the cloth are not cemented, which would occur if paint had been used to produce the Image.²²
4. No substantial paint, dye or stain residues have been found on the Shroud.²³
5. Microscopic examination of the face image reveals no preferred direction, but a painter could not have avoided showing some preference in brush strokes.
6. The three-dimensional character of the Image cannot be replicated even with today's technology.
7. A medieval artist would likely have painted the hands with thumbs, rather than without them. The absence of thumbs is now known to be consistent with damage to the radial nerves in the wrists, which results in the thumbs flexing into the palms.
8. High levels of bilirubin occur in the blood found on the Shroud. Bilirubin is a chemical that turns the bile pigments reddish-orange in color, and is indicative of severe jaundice, often brought on by physical trauma. It is unlikely that a medieval forger thought of adding bilirubin to the Image in order to give it a lifelike quality, since its existence has only come to be known in the last century.

²²Documentary: "Behold a Mystery: A Reexamination of the Shroud of Turin," Regent University, 1991.

²³ Tribbe, *Portrait of Jesus?* p. 134.

9. The dorsal foot imprint has an abundance of microscopic dust, atypical of the rest of the Image. An artist would not likely have added this element, for he or she could not have seen the dust, and would have no reason to put the dust there since no one else could see it either.²⁴

²⁴ John P. Jackson, "An Unconventional Hypothesis," p. 328.

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