

THE DIVINE LIGHT AND THE SHROUD OF TURIN

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Abstract

Numerous hypotheses have been advanced as to how the image on the Shroud was formed. However none to date has been able to explain it in scientific terms, let alone replicate it. As one researcher put it, "Science can only do so much, and so far it tells us that the image is a wonder that remains unexplained." In 1989 Dr John P Jackson asked the question, is the image on the Shroud due to a process unknown to modern science? He did not mention the term "supernatural" in his paper but phrased his question as follows, "...perhaps we need to be more flexible in our scientific approach and consider hypotheses that might not be found readily in conventional modern science." One such hypothesis could be derived from the Eastern Orthodox concept of the Divine and Uncreated Light which, according to Orthodox belief, is the light that surrounded Jesus at his Transfiguration. Such light can be viewed in numerous ways, for example as the first creation of God, as described in the Book of Genesis, and as a manifestation of God, as in the Transfiguration. An early Christian writer on the subject, known as Pseudo-Dionysius or Dionysus the Areopagite, described God the Father as "the light which is the source of all light" and Jesus as "the Light of the Father, the 'true light enlightening every man coming into the world'". One possible explanation for the image is that the body of Jesus emitted this Light at the moment of Resurrection and that this created the image on the Shroud. The Shroud itself thus becomes a light to enlighten every man who comes into the world, or at least those who care to look for the light.

Introduction

This paper develops the theme of my earlier paper by seeking to address the question of how the image on the Shroud was formed as well as by seeking a deeper insight into the reason for the formation of the image. To this day nobody has been able to provide a full explanation in scientific terms of how the image was formed on the material of the Shroud, and certainly nobody has been able to replicate it, despite many efforts. One is therefore driven to give serious consideration to the question posed in 1989 by Dr John Jackson in a paper presented to the International Scientific Symposium in Paris, "Is the image on the Shroud due to a process unknown to modern science?"¹ In this paper Dr Jackson presented the hypothesis that the Shroud image formed when the body dematerialised. Although this in itself does not explain the mechanism of the image formation, it does introduce the suggestion that some form of process not known to science took place.

Dr Jackson wrote:

"... Perhaps the time has come to ask if we ought to start thinking about the Shroud in categories quite different from those that have been considered in the past. In particular, perhaps we need to be more flexible in our scientific approach and consider hypotheses that might not be found readily in conventional modern science, for it is conceivable that the Shroud image presents, if you will, some type of "new physics" that ultimately requires an extension or even revision of current concepts."

Once this door is opened then other processes that might be described as "supernatural" can be brought into consideration.

The Scientific Method

In pursuing this line of reasoning it is necessary to clearly define the Scientific Method. This can be described in the following terms:

“A method of procedure that has characterized natural science since the 17th century, consisting in systematic observation, measurement, and experiment, and the formulation, testing, and modification of hypotheses.”

It is based therefore on observation, gathering of information and measurement, formation of a hypothesis that will explain the observations and testing of that hypothesis through experimentation. This does not preclude the study of events that might be described as representing “an extension or even revision of current concepts” or supernatural.

One must also consider the well-known dictum of the fictional English detective, Sherlock Holmes, that “when you have excluded the impossible whatever remains, however improbable, must be the truth.”²

The Divine Light

Eastern Orthodox Christianity places great emphasis on the Divine and Uncreated Light which, according to Orthodox belief, is the light that surrounded Jesus at his Transfiguration. One can take this a step further and suggest that the body of Christ, the Son of God, may have emitted this Light at the moment of Resurrection and that this created the image on the Shroud.

The fourteenth century Byzantine monk Gregory Palamas wrote at length on the subject of the Divine Light. He refers to the saints being glorified by the Divine Light and also how the glory of the Spirit shone upon the face of Moses³. He described this as being the same light which illumined the chosen Apostles on the mountain and also that “it was as light that the divinity was manifested to the disciples on the mountain”.⁴ He emphasised that this light is the light of the true divinity, not only the divinity of the Son, but that of the Father and Spirit too.

One can also refer to the Gospel of St John:

“The Word was the true light that enlightens all men.”⁵

The Book of Genesis tells us that after creating the heavens and the earth, God said “Let there be light”, and there was light. This was on the first day of creation. The physical manifestations of light, the sun and the moon, were only created on the fourth day⁶. Light existed as part of the creation.

Light can be considered in both its physical and metaphysical forms. In metaphysical terms light has various meanings:

1. Light as the first manifestation of God, as described in the Book of Genesis.
2. Light as a metaphor for God, in a spiritual sense.
3. Light as a manifestation of God on further occasions, as in The Transfiguration.
4. Light as a representation of Goodness and the Truth. This is particularly an aspect of eastern religions.
5. Light as a description of God. The Gospel of St John makes references to this.

The Divine Light encompasses all of the above.

The Physical Nature of the Divine Light

In order to investigate the Divine Light hypothesis we must ask the question – does the Divine Light as seen by man on occasions such as the Transfiguration consist of physical forms of radiation as we

know them, or is it some form of supernatural radiation that transcends natural physics. If the former it may be possible to study it; if the latter it is beyond scientific comprehension.

The Divine Light has been seen by men. It therefore has a physical effect on the human optical system and may consist of natural forms of radiation. On the other hand its brilliance and divine origin may well suggest that it consists of different forms of natural radiation combined in ways beyond our experience. It may be a combination of many different forms of natural radiation. This would certainly explain why investigations of ultra-violet or other forms of radiation on their own have not provided any satisfactory answers to date.

In his 2016 paper, *Role of Radiation in Image Formation on the Shroud of Turin*, Dr Bob Rucker makes the vital point that there is a need to think “outside the box” created by the constraints of naturalism⁷. He makes the suggestion that it is necessary to follow the evidence on the Shroud where it leads through a process of “reverse engineering”. The objective of this is to determine how the image was encoded on to the Shroud based on the characteristics of the image, rather than trying to re-create or reproduce the image in a laboratory. As Dr Rucker points out, this is the process used in forensic science, in contrast to experimental science.

Dr Rucker will be presenting this paper later in the Conference and I will leave it to him to discuss how this subject can be taken forward from a scientific perspective.

Physical Forms of Light

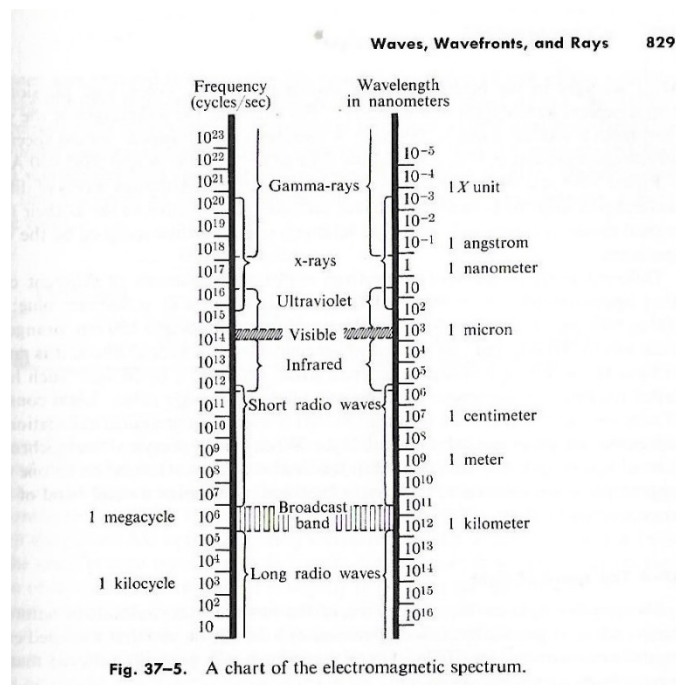


Fig 1. The Electromagnetic Spectrum – F W Sears and M W Zemansky, University Physics (Addison-Wesley Publishing Co) 1964, Chapter 37, page 829

As can be seen from the above diagram of the spectrum of electromagnetic radiation, visible light occupies a very small portion of this spectrum. It should also be borne in mind that this chart is on a geometric scale rather than a linear one. There is no reason to believe that the Divine Light, in view of its supernatural nature, might exclude any specific section of the spectrum. It could include radio waves, infrared light, visible light, ultraviolet light, X-rays and gamma rays or any combination of them. It is for this reason that experiments on image formation using solely ultraviolet or infrared light would

be almost certain to be inadequate if it is assumed that some form of extraordinary combination of wavelengths caused the image.

Valuable research has been carried out by Paolo Di Lazzaro and others on the colouration of linen by ultra-violet radiation. In 2010 the researchers concluded that:

“Our results demonstrate that a short and intense burst of directional deep-UV radiation can provide a linen colouration having many peculiar features of the Turin Shroud image, including hue, colouration of only the outer-most fibres of the linen yarns and lack of fluorescence”.⁸

In a 2012 paper the authors ended their paper as follows:

“The Shroud image has characteristics that we have been able to reproduce only in part... Sophisticated diffractive optics could replicate these features, but this effort is far beyond our intention. Our main purpose was to perform accurate and reproducible experiments apt to understand the physical and chemical mechanisms that might have played a role in the generation of the Shroud body image.

“We are not the conclusion, we are composing pieces of a fascinating and complex scientific puzzle. The enigma of the body image of the Shroud of Turin is still ‘a challenge to our intelligence’”.⁹

In April 2019 a paper in Applied Optics described how femtosecond pulse laser processing in the infrared came close to reproducing a 2-dimensional image of the face on the Shroud¹⁰.

It seems therefore that different radiation in different frequencies can produce some of the characteristics of the image, but to date there has been no successful attempt to produce the image in its entirety. This research has used radiation in frequencies close to that of visible light – the possible contribution of other frequencies in conjunction with these has not even been considered.

The Metaphysical Aspects of Light

The term “enlightenment” is usually used not in the physical sense of having a light turned on, but in the metaphysical sense of gaining knowledge. The Age of Enlightenment was the period in European history from the late 17th century to the turn of the 19th century, during which the concept of reason as the primary source of knowledge was developed. There was an increased emphasis on the scientific method. Science played an important role on the Age of Enlightenment with many major scientific discoveries being made. It was as if an intellectual light had been switched on.

In this context light can be seen as a representation of Truth.

It is also a representation of Goodness and Beauty. William Shakespeare makes particular use of the symbolism of light in his play *Romeo and Juliet*. At the start of Act II, on seeing Juliet Romeo exclaims, “What light through yonder window breaks? It is the east, and Juliet is the sun.” In the final Act, on seeing what he assumed to be Juliet’s dead body, he cries, “For here lies Juliet, and her beauty makes this vault a feasting presence full of light.”¹¹

The concept of light representing truth was also an integral part of Zoroastrianism, the religion of Persia. According to Zoroastrian belief – which had considerable influence on the development of Jewish belief – Ahura Mazda, who was the greatest of the gods, summoned time and creation into being and empowered Arta, who was Truth, to give order to the universe. But Arta was shadowed by

Drauga, the Lie. Zoroaster taught that Ahura Mazda was the Lord of Life, Wisdom and Light and that Truth would annihilate all falsehoods to establish an eternal reign of peace¹².

Thus the identification of Light with Truth and Beauty is common to many cultures and to many ages. It is no great intellectual leap to identify light with the image on the Shroud and to see light as both the cause and the purpose of the image.

The Light of the World

An early Christian writer on the subject of the Divine Light was the writer known as Pseudo-Dionysius or Dionysus the Areopagite, who described God the Father as “the light which is the source of all light” and Jesus as “the Light of the Father, the ‘true light enlightening every man coming into the world’”.¹³ In this regard he was of course simply building on the words of St John:

“I, the light, have come into the world, so that whoever believes in me need not stay in the dark any more.”¹⁴

St Thomas Aquinas discusses light in the context of God in *Summa Theologiae*. This work is divided into three Parts, with the second being itself divided further into two parts, together with a Supplement. In the First Part Aquinas discusses the question of “How God is Known by Us.”¹⁵ Aquinas makes the following statements as his own views in response to Objections that he quotes:

“Since the natural power of the created intellect does not avail to enable it to see the essence of God... it is necessary that the power of understanding should be added by divine grace. Now this increase of the intellectual powers is called the illumination of the intellect, as we also call the intelligible object itself by the name of light of illumination. And this is the light spoken of in the Apocalypse (21:23): ‘The glory of God hath enlightened it.’”¹⁶

“Of those who see the essence of God, one sees the more perfectly than another... The faculty of seeing God, however, does not belong to the created intellect naturally, but is given to it by the light of glory.”¹⁷

What Aquinas appears to be saying is that God’s grace is a source of light in the sense of comprehension or understanding, and that the ability of a person to see and understand God depends on the amount of Divine light granted by God to that person. Light in the sense of understanding God is a gift from God.

The Shroud may be seen in this context. It is a gift from God, given to humanity by divine grace to provide the ability to see and understand God. It is both the creation of the Divine Light and the inspiration of Divine Light in a person’s intellect. It bears the image of the light of the world and is itself a light to enlighten every man who comes into the world, or at least those who care to look for the light.

Notes

1. Jackson J P, *Is the Image on the Shroud due to a Process heretofore Unknown to Modern Science?*, a paper presented to the International Scientific Symposium in Paris on 8 September 1989 and subsequently published in *Shroud Spectrum International*, no 34, March 1990.
2. Conan Doyle A, *The Sign of the Four*, Chapter 6, first published in 1890.
3. Exodus 34:29-35.
4. Palamas G, *The Triads* (Paulist Press, New Jersey, 1983), Part E, paragraphs 10 – 12, pages 72 – 73.
5. John 1:9.
6. Genesis 1:1-19.
7. Rucker R A, *Role of Radiation in Image Formation on the Shroud of Turin*, 11 October 2016, page 3.
8. P Di Lazzaro, D Murra, A Santoni, G Fanti, E Nichelatti and G Baldachini, *Deep Ultraviolet Radiation Simulates the Turin Shroud Image*, *Journal of Imaging Science and Technology (JIST)* July-Aug 2010.
9. P Di Lazzaro, D Murra, A Santoni, E Nichelatti, G Baldacchini, *Shroud-Like Coloration of Linen by Nanosecond Laser Pulses in the Vacuum Ultraviolet*, ENEA (Agenzia Nazionale per le Nuove Technologie) Italy 2012.
10. C Donnet, J Granier, G Verge, Y Bleu, S Reynaud, F Vocanson, *Applied Optics Vol 58, Issue 9*, page 2158 (2019) – Abstract.
11. William Shakespeare, *Romeo and Juliet*, Act 2 Scene II and Act 5 Scene 3.
12. Holland T, *Persian Fire* (Doubleday 2005), Chapter 1, pages 32 – 34.
13. This quotation is in notes that I made for an earlier paper but I am unable at present to find the exact reference.
14. John 12:46.
15. St Thomas Aquinas, *Summa Theologiae*. I, Q 12.
16. Ibid. I, Q 12. Art 5, Obj 3.
17. Ibid. I, Q 12, Art 6, Obj 3.