# THE SHROUD OF TURIN AND THE HOLY FIRE OF JERUSALEM

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#### INTRODUCTION

The Shroud of Turin and the Holy Fire of Jerusalem are two unsolved mysteries related to the death and resurrection of Jesus Christ. The Shroud of Turin is believed by many to be the actual burial cloth of Jesus Christ purchased by Joseph of Arimathea as recorded in all four Gospels.<sup>1</sup> It is a linen cloth measuring 4.4 meters x 1.1 meters which contains an image of a man who was brutally scourged, crowned with thorns, crucified and pierced by a spear in his chest.

The Holy Fire of Jerusalem is a phenomenon which takes place in the Orthodox world on a specific day, in the same manner, every year at the Tomb of Jesus located in the Church of the Holy Sepulchre in Jerusalem. This phenomenon is virtually unknown in the West, but for Orthodox Christians it is a powerful symbol of the resurrection. It is said to be a gift of God and happens annually. Its recorded history can be reliably traced for the past 1,200 years.<sup>2</sup>

This paper will include a brief history and some of the science of these two phenomena and will explore their connection. In my opinion, should the Shroud of Turin and the Holy Fire both be proven to be authentic, then their relationship is clear. The phenomenon known as the Holy Fire of Jerusalem could and would have been the means by which the image on the Shroud of Turin was formed.

While it is beyond the scope of this paper to prove this relationship, it is hoped that it will nevertheless encourage more theological reflection, as well as additional historical and scientific research.

## THE SHROUD OF TURIN

Historically the Shroud can be traced back reliably to the 1350s. Its whereabouts and history after the death and resurrection of Jesus until its appearance in Lirey (France) are the subject

<sup>&</sup>lt;sup>1</sup> Matthew 27:59, Mark 15:46, Luke 23:53 and John 19: 38 – 40.

<sup>&</sup>lt;sup>2</sup> H. SKARLAKIDIS, *Holy Fire*, Elea Publishing, Athens 2015, 39.

of ongoing research by historians. They are confident, however, that the Shroud was known in the Byzantine world as the *Mandylion*, a mysterious cloth bearing the image of a crucified man, a cloth which disappeared from Constantinople during the 4<sup>th</sup> Crusade in 1204.<sup>3</sup>

It is also known that the House of Savoy took ownership of the Shroud in 1453. They owned the Shroud for 500 years until 1983 when the last King of Italy, Umberto II – a member of the house of Savoy – bequeathed the Shroud to the Pope and his successors.<sup>4</sup>

The Shroud drew the attention of the scientific community in May 1898 when the first photographs were taken. For the first time in its history, it was discovered that the image imprinted on it had negative properties. This was the beginning of serious scientific inquiries which are still ongoing today. Further examinations in 1978 established that the image on the Shroud was not a painting.<sup>5</sup> A number of Shroud researchers have suggested that the image on the Shroud appears to be a sort of cold scorch and concluded that some unknown process produced it, some sort of mild heat or light at a moderate temperature and not a burst of intense heat. This action caused an oxidation and accelerated dehydration of the linen fibers.<sup>6</sup>

An interesting observation was made in Jerusalem in 2016 which may concern the Shroud of Turin. As part of a conservation effort of the Church of the Holy Sepulchre, the traditional resting place of Jesus after his crucifixion, scientists removed for the first time since 1555 a marble slab that had covered the original surface where the body of Jesus was placed.<sup>7</sup> According to reports, a number of the instruments used by scientists for analysis and measurement were affected by strong electromagnetic disturbances when they were placed on the stone slab. This led some of the scientists to observe that "[...] these unusual electromagnetic anomalies at the tomb of Jesus may lend credence to a scientific hypothesis on the creation of the image on the Shroud of Turin".<sup>8</sup>

<sup>&</sup>lt;sup>3</sup> Cf I. WILSON, *The Shroud – The 2000-Year-Old Mystery Solved*, Bantam Press, London 2010, 176.

<sup>&</sup>lt;sup>4</sup> Cf. G.M. ZACCONE, *The Shroud from the Charnys to the Savoys The Turin Shroud, Past, Present, and Future,* International Scientific Symposium, Torino 2 – 5 March 2000, Sindon – Centro Internazionale di Sindonologia & Effata Editrice, 2000, 383.

<sup>&</sup>lt;sup>5</sup> https://www.shroud.com/78conclu.htm accessed 15 May 2019.

<sup>&</sup>lt;sup>6</sup> Cf. K. STEVENSON & G. HABERMAS, *The Shroud and the Controversy*, Thomas Nelson, Inc., Nashville 1990, 128 – 130.

<sup>&</sup>lt;sup>7</sup> Cf. https://news.nationalgeographic.com/2016/10/jesus-tomb-opened-church-holy-sepulchre/ accessed 12 July 2018.

<sup>&</sup>lt;sup>8</sup> https://aleteia.org/2016/11/15/mysteries-surround-the-opening-of-the-tomb-of-christ/ accessed 12 July 2018.

This was published in a news release on *Aleteia*, a Roman Catholic site. If confirmed, there would seem to be a link between these unusual electromagnetic disturbances and what is known in the Orthodox world as the Holy Fire of Jerusalem and a possible link with the Shroud.

Dr. Giulio Fanti, associate professor at the Department of Industrial Engineering, University of Padua, Italy, agrees to possible links between the Shroud of Turin and the Holy Fire. Fanti, who has written extensively on the Shroud of Turin and who is convinced of its authenticity, wrote in 2015: "[...] it would be interesting managing to study from a scientific point of view the phenomenon of the *Holy Fire* that every year ignites in the tomb of Jesus in Jerusalem on the eve of Orthodox Easter, perhaps trying to connect it with the body formation on the Shroud."<sup>9</sup>

Because the phenomenon of the Holy Fire is practically unknown in the West, it deserves further study particularly whether it is related to the image of the Shroud.

### THE HOLY FIRE OF JERUSALEM

The Holy Fire of Jerusalem, also called the Holy Light, is a phenomenon which takes place in the same manner, every year at the Church of the Holy Sepulchre on the eve of Easter. It is a phenomenon witnessed by a crowd of people who gather each year to experience it. It happened this year on Saturday April 27, 2019.<sup>10</sup>

The ritual leading to the appearance of the Holy Fire begins with the Greek Orthodox Patriarch of Jerusalem descending into the empty tomb of Christ within the church, holding unlit lamps and candles and reciting special prayers. Immediately prior to this, religious and secular authorities have examined the aedicule (a small structure surrounding the tomb) prior to the Patriarch's arrival to make sure no oil lamps have been left burning inside that he could use to light his candles. They also ensure there are no matches or any other means to light the candles. Moments later, a light is said to appear in the tomb where the patriarch has been praying alone. His candles are lit with this miraculous flame and, accompanied by the pealing of bells, the patriarch emerges to spread the fire among the crowd. The flame is passed from candle to candle and then placed in lanterns so that it can be transported abroad to other countries. Incredibly, the Holy Fire does not

<sup>&</sup>lt;sup>9</sup> Cf. G. FANTI & P. MALFI, *The Shroud of Turin*, Pan Stanford Publishing, Singapore 2015, 306.
<sup>10</sup> https://www.timesofisrael.com/orthodox-christians-mark-holy-fire-easter-ceremony-in-jerusalem/ accessed 15 May 2019

cause burns during the first fifteen minutes. During this time, many of the faithful bathe their faces and hands in the flame.<sup>11</sup>

The Holy Light not only appears inside the Tomb but at times spreads by itself around the Church, emitting, from the Holy Sepulchre, light with a hue completely different from natural light and sometimes igniting spontaneously other candles which are held by those present.<sup>12</sup>

According to the Orthodox Church, the ceremony surrounding the miracle of the Holy Fire may be the oldest unbroken Christian ceremony in the world and is, for the Orthodox, the central focus of the commemoration of Christ's victory over death.<sup>13</sup> Reliable historical sources confirm that this phenomenon was known possibly as long ago as the 4<sup>th</sup> Century. An early Arminian document tells of the miraculous appearance of the Holy Fire at the Church of the Holy Sepulchre to St Gregory the Illuminator around the year 330 AD.<sup>14</sup> In the 7<sup>th</sup> Century, St. John of Damascus speaks of this fire as being the "Uncreated Light of the Creator, the source of energy which raised Jesus from the dead".<sup>15</sup>

In his work *On the Resurrection of Jesus Christ*, St Gregory of Nyssa tells us how, while it was still dark, Peter and John were able to see Jesus' wrappings inside the tomb. He believes this was an occurrence of the Holy Fire and writes: "Those who were with Peter saw and believed ... because the tomb was filled with light, so that even though it was still night, they saw the inside of the tomb".<sup>16</sup>

In a 1998 interview, Patriarch Diodoros explained exactly what happens at the moment of the phenomenon. He described that he first kneels in front of the stone on which the body of Christ was laid and then he recites a number of prayers. At some point, an indefinable blue light rises

<sup>&</sup>lt;sup>11</sup> Cf. BISHOP AUXENTIOS OF PHOTIKI, *The Paschal Fire in Jerusalem*, Saint John Chrysostom Press, Berkeley 1993, 160. The theological perspective on this aspect of the Holy Fire is that in the flame of the fire there co-exist the properties of both immaterial and material light.

<sup>&</sup>lt;sup>12</sup> Cf. H. SKARLAKIDIS, *Holy Fire...*, 26.

<sup>&</sup>lt;sup>13</sup> Cf. BISHOP AUXENTIOS OF PHOTIKI, *The Paschal Fire...*, 3.

<sup>&</sup>lt;sup>14</sup> Cf. H. SKARLAKIDIS, *Holy Fire...*, 37.

<sup>&</sup>lt;sup>15</sup> Cf. Ibid., 33.

<sup>&</sup>lt;sup>16</sup> Ibid., 33.

from the core of the stone as mist rises out of a lake. It rises and ignites the oil lamp and the candles.<sup>17</sup>

For many centuries, the annual miracle of the Holy Fire was very popular even with the Moslem community in Jerusalem,<sup>18</sup> whose residents not only participated in the rite but also transported the Holy Fire to their homes and mosques.<sup>19</sup>

A Muslim document from the 9<sup>th</sup> Century simply tells of "a bright white fire spontaneously appearing inside the shrine as if sent from heaven, and of Christians lighting their candles from the Greek patriarch's Holy Fire before returning home in triumph, brandishing their divine favour and shouting 'Hasten to the religion of the cross!"<sup>20</sup>

The mood changed in the 10<sup>th</sup> Century when Islamic authorities demanded the complete termination of all future celebrations. In a document written in 947 AD, the Emir's demand to the Patriarch of Jerusalem read: "In performing your celebrated miracle with magic artifices, you have filled all of Syria with the religion of the Christians and you have all but destroyed all of our customs."<sup>21</sup>

In the 11<sup>th</sup> Century, Caliph al-Häkim ordered the destruction of the entire complex of the Church of the Holy Sepulchre as a direct result of his reaction to reports of the miraculous manifestation of the Holy Fire of Jerusalem.<sup>22</sup> The miracle of Holy Fire was a contributing factor towards the persecution of Christians. Caliph al-Häkim passed an ordnance against Christians; pilgrimages were banned, properties were confiscated, crosses were burnt and small mosques were built on the roofs of churches.<sup>23</sup> It is reported that the phenomenon of the Holy Fire continued to occur after the destruction of the Sepulchre.<sup>24</sup> The church was rebuilt 40 years later at great expense by the Byzantine emperor Constantine IX and Patriarch Nicephorus of Constantinople.<sup>25</sup>

<sup>&</sup>lt;sup>17</sup> Cf. Ibid., 240.

<sup>&</sup>lt;sup>18</sup> Cf. BISHOP AUXENTIOS OF PHOTIKI, *The Paschal Fire...*, 32.

<sup>&</sup>lt;sup>19</sup> Cf. H. SKARLAKIDIS, *Holy Fire...*, 12.

<sup>&</sup>lt;sup>20</sup> F.E. PETERS, *Jerusalem*, Princeton University Press, New Jersey 1995, 261.

<sup>&</sup>lt;sup>21</sup> BISHOP AUXENTIOS OF PHOTIKI, *The Paschal Fire...*, 30.

<sup>&</sup>lt;sup>22</sup> Cf. Ibid., 34.

<sup>&</sup>lt;sup>23</sup> Cf. Ibid., 35.

<sup>&</sup>lt;sup>24</sup> Cf. H. SKARLAKIDIS, *Holy Fire...*, 87.

<sup>&</sup>lt;sup>25</sup> Ibid., 85.

Throughout its recorded history and to this day, thousands of faithful from the Orthodox world and also Catholics and Protestants attend the ceremony with unwavering enthusiasm. In informal discussions with several Orthodox priests, I learned that devotion to the Holy Fire is real and that they affirm and accept the miracle as an act and a gift of God.<sup>26</sup>

The first serious scientific inquiry took place in 2007 when a team of scientists led by physician Andrei Volkov, associate professor in Mechanics of Materials at the National Research Nuclear University of Russia, took precise measurements of the phenomenon. Their results were published in April 2013 in the Russian journal *Science and Religion* (Наука и Религия):

"[...] For the first time in history, a strong radio pulse was recorded at the moment of the Holy Fire's descent [...] we have found further evidence that the miracle of the Holy Fire is an actual occurrence and not a hoax or fraud [...] At the descent of the Holy Fire, flashes of light diffuse across the walls of the church [...] we can assume that the lighting of the Holy Fire is the result of electrical discharge [...] It is clear that the origin of this concentrated discharge on this specific day, at this specific time and at this particular location remains unknown [...] The appearance of the flashes on the church's walls, as well as its chaotic movements, could be explained as a glow of low-temperature plasma [...]"<sup>27</sup>

Low temperature plasma is a highly ionized gas, very rarely formed in nature.<sup>28</sup>

In 2016, the temperature of the Holy Fire was measured using an infrared pyrometer and was reported at an average temperature of 42° Celsius when it first appears, before reaching 320° Celsius after a delay of approximately ten to fifteen minutes.<sup>29</sup>

In April of this year, Dr Giulio Fanti conducted scientific research and his findings were published in July 2019 in "Juniper – the Global Journal of Archaeology and Anthropology".<sup>30</sup> Dr Fanti witnessed the phenomenon firsthand and reported that outside the Tomb of Jesus, a series of multiple strikes of lightning were emitted at regular intervals at a frequency varying from 3 to 10 Hertz, just before the Patriarch came out of the Tomb with the Holy Fire. He then carried out a series of experiments. One of these consisted of comparing the effects of the Holy Fire with that

<sup>&</sup>lt;sup>26</sup> Father M. Penney, Rector of the Koimisis Tis Theotokou Greek Orthodox Church in Kingston, Ontario and Father C. Baxter, Ukrainian Orthodox military chaplain serving with the Canadian Army. In addition, Father Baxter owns a set of candles which were originally lit by the Holy Fire and presented to him several years ago.

<sup>&</sup>lt;sup>27</sup> H. SKARLAKIDIS, *Holy Fire...*, 135.

<sup>&</sup>lt;sup>28</sup> G. FANTI, Is the "Holy Fire" Related to the Turin Shroud?. Glob J Arch & Anthropol. 2019; 10(2).

<sup>&</sup>lt;sup>29</sup> Cf. http://orthochristian.com/96672.html accessed 10 July 2018

<sup>&</sup>lt;sup>30</sup> G. FANTI, Is the "Holy Fire"...

of a common flame lit by a lighter, at a distance of about 3 cm from a linen fabric similar to the fabric of the Shroud of Turin. The study consisted of the analysis of the effects produced on a linen fabric exposed to the two flames for a period ranging from about 4 seconds to about 30 seconds.

In these experiments, the flame from the common fire left the linen charred. On the other hand, the flame from the Holy Fire produced only browning on the fabric as the result of an oxidation and dehydration of the fibers.<sup>31</sup> This finding was ground-breaking in the search for answers as to how the image on the Shroud was formed. Recall that the colour of the image on the Shroud of Turin is brownish-yellow and that it consists of an oxidation and dehydration of the linen fibers.<sup>32</sup> The similarity between the marks observed by Fanti and those found on the Shroud of Turin is remarkable.

Unsurprisingly, the miracle of the Holy Fire is not universally accepted. In 1238, Pope Gregory IX denounced the Holy Fire as a fraud and prohibited the participation of Latin clergy in it.<sup>33</sup> In an updated version of John Calvin's Treatise on Relics written in 1870, Protestant Reformers speak of the Holy Fire as "sacred juggleries [...] which outrival the most superstitious practices of ancient or modern Paganism!"<sup>34</sup> A 19<sup>th</sup> Century Greek humanist scholar, Adamantios Korais was critical of the Holy Fire which he considered to be religious fraud. He referred to the event as "machinations of fraudulent priests" and to the "unholy" light of Jerusalem as "a profiteers' miracle". <sup>35</sup> Despite heavy criticism, belief in the Holy Fire continues among many people and further studies are warranted.

# RELATIONSHIP BETWEEN THE HOLY SHROUD AND THE HOLY FIRE

The Shroud of Turin and the Holy Fire of Jerusalem have different historical backgrounds and yet are directly connected with the resurrection of Jesus Christ from the dead. The known history of the Shroud concerns its time in Europe only, while its whereabouts from the time of the burial of Jesus to the 13<sup>th</sup> Century is reconstructed within the Byzantine world. The Holy Fire, on

<sup>&</sup>lt;sup>31</sup> Cf. Ibid.

<sup>&</sup>lt;sup>32</sup> Cf. Ibid.

<sup>&</sup>lt;sup>33</sup> Cf. H. SKARLAKIDIS, *Holy Fire...*, 16, 94.

<sup>&</sup>lt;sup>34</sup> J. CALVIN, *A Treatise on Relics*, Edinburgh 2<sup>nd</sup> Edition 1870, 153. As found on http://www.gutenberg.org/files/32136/32136-pdf.pdf Accessed 19 July 2018

<sup>&</sup>lt;sup>35</sup> No author named. "Adamantios Korais", https://en.wikipedia.org/wiki/Adamantios\_Korais (accessed 13 July 2018).

the other hand, is a phenomenon which takes place at the same time, in the same manner, every year at the Church of the Holy Sepulchre. Still, they potentially possess a common point of origin.

Should the Shroud be proven to be Jesus' burial cloth, then this linen cloth is the one purchased by Joseph of Arimathea, as recorded in the Gospels, and the image on the cloth was formed at the tomb of Jesus, assumedly at the time of the resurrection. Likewise, if the Holy Fire is proven to be genuine, it is logical to assume that this Fire was not only present on the day of Jesus' resurrection, as St Gregory of Nyssa wrote, but can be inferred as being a manifestation of the energy which caused the resurrection. Recall that St John of Damascus, who lived in the 7<sup>th</sup> Century, wrote of this fire as being the Uncreated Light of the Creator, the source of energy which raised Jesus from the dead.

Given that a possible explanation for the image of the Shroud is that it is the result of a low heat scorch and given that the Holy Fire was possibly identified as low heat plasma, then the relationship is clear. The phenomenon known as the Holy Fire of Jerusalem could and would have been the means by which the image on the Shroud of Turin was created.

#### CONCLUSION

Little scholarship is available which considers the relationship between the Holy Shroud and the Holy Fire of Jerusalem. The work of Dr Giulio Fanti in 2019 as well as the observations made in 2007 and 2016 might provide important clues as to how the image on the Shroud was created.

These two miracles belong to two distinct branches of the Church which are not in communion with each other. From a religious perspective, these miracles are matters of faith and not science. Ironically, while the Roman Catholic Church denounced the Holy Fire as a fraud, some (but not all) Orthodox authorities deny that the Shroud could be Jesus' burial cloth.<sup>36</sup> Regardless, it is hoped that a common ground will be found so that further study into the relationship of these two phenomena can be conducted.

<sup>&</sup>lt;sup>36</sup> BISHOP AUXENTIOS OF PHOTIKI, *The Paschal Fire...*, 186. In private correspondence with Harris Skarlakidis on 11 April 2018, Skarladikis surprisingly indicated to me that he was unaware of any scientific work on the Shroud of Turin. He stated however that if the Shroud was proved to be genuine, then the connection with the Holy Light would be obvious.