

Science and the Mysteries of the Shroud

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There are many layers of mystery to the artifact that is commonly known as the Shroud of Turin. We can see this in the variety of reactions that it evokes. For many people it is revered as the burial cloth of Jesus of Nazareth. For others it is simply the burial cloth of a crucified man from many centuries ago. For still others it is a medieval forgery. These reactions, in turn, result from unanswered questions about the layers of mystery that the artifact represents. One layer is the historical question of how old the artifact is, where it originated, and how it arrived in Turin. Another layer is the scientific question of how the discernible image on the artifact was made, since no technology known in earlier ages or even today appears capable of having done this. Yet another—and the most important—layer of mystery is the *significance* of the possibility that this may be indeed a relic of the Passion and Death of Jesus.

The latter possibility explains the intense popular, scientific, and devotional interest that the Shroud has engendered. It has been called the most studied artifact in human history. Our own conference here is a part of that ongoing study. I speak to you today (tonight) not as an historian or a scientist, but as a Catholic bishop and theologian. I address the subject of the fascination of the Shroud as someone who shares that fascination, but who wants history and science to have their say. At the same time, from a religious point of view, I would like to share some reflections on the methodology and the significance of the study of the Shroud. The study addresses a mystery in the scientific sense, addressing questions for which we do not yet have answers. But the study also addresses a mystery in the theological sense. If it is indeed the burial cloth of Jesus, it is physical evidence of the interface between the human and the divine, an interface beyond which the field of scientific inquiry, designed for study of the natural world, does not have access.

The Shroud Itself

The Shroud is a linen cloth approximately 14 feet 3 inches long and 3 feet 7 inches wide. It bears the frontal and dorsal image of a bearded man who appears to have been scourged front and back, thorax, buttocks, and legs. He had, apparently, been crowned with thorns, and his wrists and feet bear the wounds of crucifixion. He was about 5 foot 11 inches in height, somewhat tall for ancient times, and 175

pounds in weight. His body is naked. The right side of his chest shows a large flow of blood from a wound inflicted postmortem. His legs are slightly flexed, apparently in *rigor mortis*. His bloodied hands are crossed left over right and cover his groin. The thumbs are not readily visible. Stains show flows of blood down both forearms. A flow of blood on his forehead forms the numeral 3. There are abrasions across the back of his shoulders and his neck consistent with carrying the crossbeam of a cross. His nose appears to be broken and his right cheek swollen, injuries consistent with one or several falls while bearing the crossbeam to the site of the crucifixion. The stains of his blood have been studied.

The linen of the cloth is of very high quality, in a pattern of herringbone twill. Other stains on the cloth have suggested that the cloth may be something like a table cloth, perhaps from the Last Supper. One of the most interesting things about the image on this cloth is how superficially it is imprinted. The image does not penetrate the threads that form the linen, but only the outermost fibers of the threads. Some investigators have also claimed that the cloth contains pollens from the area of ancient Jerusalem.

The carbon dating of the cloth that was done in 1988 showed an origin somewhere between A.D. 1260 and 1390. For many, this conclusion was dispositive and for them the Shroud is nothing more than a medieval fraud. Since the time that the carbon dating was done, however, other factors have been brought to bear. The most significant of these is the contention that the portion of the cloth that was cut for the sample appears to be unrepresentative, a section that had been repaired in medieval times by a highly skilled cloth maker. Moreover, the Shroud itself is known to have been venerated in Constantinople in 1204, well before the other dates in question. For these reasons, for other investigators the date of the origin of the Shroud remains an open question.

Many theories have been proposed to explain the formation of the image itself. Most of them are inconsistent with one or more of the known features of the image itself. Dr. John Jackson, of the Turn Shroud Center of Colorado in my see city of Colorado Springs, has proposed a possibility that he calls the Radiation-Fall Through Hypothesis. I will quote a concise summary of it.

The body wrapped in the Shroud appears from the data of the image to have become (without explanation) radiant and simultaneously mechanically transparent. That is, the data of the image suggests the body instantaneously offered no mechanical resistance to the cloth. This allowed the Shroud cloth to collapse and fall through the radiant body space under the influence of

gravity. The remaining irradiated cloth, then, over some indeterminate period of time, aged and the image developed.

Of course I am not a scientist, and so I am unable to evaluate the hypothesis from a scientific point of view. I know that some scientists do not accept this hypothesis. I would, however, add a reflection from a theological point of view.

Christianity is a religion of the Incarnation, of the Word-made-flesh. In life the physical body of Jesus of Nazareth, the incarnate Son of God, would have left footprints, would have touched the people with whom he lived and interacted, would have suffered a truth death, and in death would have been buried. *It is not impossible* that the Resurrection of that body could have left a residue, a relic, an aftereffect. And since the Resurrection is the only known event of its kind, there would be no other point of comparison for it in the world viewed by science. Remember that the Resurrection of Jesus was not simply a resuscitation of his dead body but a translation of his whole person—body, blood, soul, divinity—to a new plane of existence that believers refer to as his glory. This would not be an idle fact, since believers hope to attain to that same glory by the grace of the same Risen One. If the Shroud gives us tangible evidence of that translation, including stains of the actual, physical blood of Jesus, it is by that very fact the most precious artifact in the sensible universe.

Death by Crucifixion

The first photographs of the Shroud were taken in 1898 by Secondo Pia and showed in negative an incredibly detailed image of the body of a scourged and crucified man. These historic photographs began the scientific study of the Shroud. Correspondingly, medical science began speculating on the nature of death by the ancient Roman practice of crucifixion. There are several medical theories, and we may hear some of them at this conference. Again, since I am not a scientist, I do not feel qualified to evaluate them. In the case of Jesus, it seems clear that he was already in a state of shock, or close to it, by the time he was crucified; nonetheless, the rapidity of his death on the cross surprised even the Romans involved with it.

What is clear in all studies of crucifixion—and what is testified by the Shroud itself—is that death by crucifixion was extraordinarily painful. Our English word “excruciating” bears testimony to this, being derived from the Latin root, *crux*, *crucis*, meaning cross. The various methods of crucifixion were deliberately designed to maximize this pain, to draw it out, and to allow no point of

intermediate relief. The forced extension of the victim's arms in crucifixion would have made his breathing increasingly difficult and painful. As the weight of the chest compressed the lungs, the victim would attempt to find relief by pushing himself upwards with his legs. This would have put pressure on his pierced feet and rubbed his scourged back against the coarseness of the upright beam of the cross. Eventually his strength would fail him. The Gospels relate only seven words of Jesus in his final hours. The likelihood is that they were gasped, not spoken. At the end, in the Gospels of Matthew, Mark, and Luke, Jesus gave out a loud cry, perhaps the result of a final internal physical trauma; then he bowed his head and died.

I speak again now as a bishop and theologian. Holy Week does not simply remember the agony of the Savior's death. In the Liturgy of the Lord's Passion on Good Friday, the rubrics specify a beginning time of 3:00 P.M., the hour of mercy, the moment of Christ's death. They *permit* a later time, if pastoral needs suggest it, but the specified time is a symbol that shows the entire Church in her hundreds of millions kneeling at the foot of the cross before the dead body of Jesus. Initially we kneel in silence. Then we begin the prayers, Scripture readings, and hymns that celebrate the meaning of what we remember. This is the vicarious atonement of the human race by the Suffering Servant. This is the obedience of our compassionate High Priest. This is the death of the Paschal Lamb *par excellence*. This is the glory of the King of the Jews. This is the salvation of the world. We are not filled with the fear we deserve. We are filled with faith and confidence and we cry out: Holy God! Holy and Mighty God! Holy Immortal One, have mercy on us!

It seems counterintuitive, but for Christians it is the paradox at the heart of Redemption. The path to glory is the Way of the Cross. As St Paul wrote, this is utter foolishness for some, but for the followers of Christ, it is a manifestation of the power and wisdom of God.

Some Methodological Reflections

Two thousand years later, we are still affected by this death. We are still interested, we are still haunted, and we are still engaged. Believers contemplate it with reverence and love. Skeptics disbelieve it and seek ways to minimize its importance. In the Shroud we have an artifact that possibly—and for some probably—gives testimony to the event. It is something that science can investigate and illuminate, but whose importance in the end science cannot determine. Science can talk about the what and the how of things, but not the why

and the value of them. This is an essential limitation of science whose logic allows the investigation of only those questions that could be resolved by the use of empirical data. In the Shroud we have empirical data, and science has told us a great many things about it. Concerning the central question, however, “Is this the burial cloth of Christ?” science can only arrange schemes of probability.

Faith is about more than probability. The martyrs did not die, because they thought that Christ is probably the Savior of the human race; they died in the certainty that he is. The difference between life and death is absolute, and to be so sure of something as to pay for it with one’s death is to be very sure indeed. It might be worthwhile, then, for us to review the nature of faith and the difference between faith and knowledge.

The Catechism of the Catholic Church quotes the famous definition of faith from St. Thomas Aquinas: “Believing is an act of the intellect assenting to the divine truth by command of the will moved by God through grace” (CCC, n 155, quoting STh II-II, 2, 9). In other words, believing is a form of knowledge—faith is an intellectual virtue—but it differs from knowledge because it contains a role for the will. We come to know something by the unfolding of the various stages of our cognitive ability: from data we move to hypothesis, then to verification. But the questions that faith deals with involve obscure data. Indeed for some, faith is like a step into utter darkness. Maybe some of us have had this experience in a power failure or a camping trip. Even if we are relatively sure of the ground in front of us, it still takes a deliberate decision or internal command to take a step forward into the dark. And it will be a halting step!

We have to make a decision in order to believe. At some point we simply have to say, I choose to believe this. For scientists or humanists who will not allow religion or theology to define its own method, this decision is nothing more than wishful thinking. It would be nice, they say derisively, if the universe and human history had a loving father and provident guide, but this is infantile projection. Is it? Is the language of empirical fact the only language that describes reality? I ask this because these same skeptics probably have favorite songs for their romantic relationships, or buy flowers or have candlelight dinners for Valentine’s Day.

Some of the most significant truths of our life cannot be measured by science, yet they are the bedrock for the way we live. This is the realm of the mythopoetic—a realm of images, symbols, narratives, roles, songs, poems, dramas, and art that incorporates the heart as well as the mind. It is a realm with its own

logic, its own criteria for persuasion, neither of which may follow the principles of philosophy or science. Religion belongs to that realm. It is a profusion of stories and symbols, heroes and villains, crises and resolutions, all of which teach and celebrate the truths that belong to our deepest peace.

Faith and Community

The decision of faith is not ours to make alone. It is made in the context of a faith community, usually in the context of the family. We believe because others have taught us to believe. And these others were taught by still others in a sequence that stretches all the way back to biblical times. It is a benign contagion. Belief is far easier in a community of belief, and far more difficult when surrounded by skepticism and hostility.

The most important reason for saying that faith is not ours alone is because our decision to believe is assisted by God. Faith is not the conclusion of an argument; it is the insertion into a relationship which does not begin with us. God is not Aristotle's Unmoved Mover, who moves the universe in sublime indifference simply by being admirable and above it all. The God of Jews and Christians is intimately involved in his creation, sustaining it in every detail in every moment of its existence. What is more, he has *entered* that universe, *entered* our history to invite us to a relationship that the Bible calls the covenant. Jesus called it friendship. God offers us his friendship and calls us to respond. And the name of that response is faith.

It is not a response of which we are capable on our own. God is infinite and we are finite. God is all-holy and we are sinners. Between us and him there is an infinite chasm. But he bridges that chasm. He reaches out to us in friendship and, in the gift of his grace, he gives us the ability to respond to his outreach, to be his friends, and to live in intimacy with him. He gives us the very capacity to *decide* to respond. He precedes that response, he prompts that response, he accompanies that response, he sees that response to completion.

And let me be clear about what that decision ultimately means. The fundamental act of the will, the fundamental decision of life is love. Who do we love? What do we love? The act of faith is inseparable from the act of charity, and in the end it is charity that is the heart of spiritual perfection. We are created in love by Love Himself, and we are created *for* love. We are created to love him who has first loved us, and to love all others in and through him. This is the basis

for something that Pope Benedict XVI said in his Christmas Message *urbi et orbi* in 2010:

If the truth were a mere mathematical formula, in some sense it would impose itself by its own power. But if Truth is Love, it calls for faith, for the ‘yes’ of our hearts. And what do our hearts, in effect, seek, if not a Truth which is also Love? Children seek it with their questions, so disarming and stimulating; young people seek it in their eagerness to discover the deepest meaning of their life; adults seek it in order to guide and sustain their commitments in the family and the workplace; the elderly seek it in order to grant completion to their earthly existence.

When our minds are unbiased and the issue is clear, we cannot help but to assent to the truth. But when the issue is something as mysterious as God, something as obscure yet respectful of our freedom, it calls to us in love, to elicit our love in turn.

Faith and Knowledge

Faith is not only a decision. It is a type of knowledge made possible by decision. It in turn gave rise to the discipline that is called theology, the systematic effort to understand what God has revealed and to communicate it to ambient culture. The Catholic Church is open to all the forms of knowledge that are compatible with human dignity. Ultimately, we are confident that there cannot be a conflict between faith and science because they both spring from the same divine source, the Truth that cannot contradict itself. There may be misunderstandings from one side or the other, but, in their nature, these are temporary, because, at its basis the Truth is unitary and unifying.

The university was a creation of the Catholic Middle Ages and it is still a powerful instrument for the development and dissemination of human knowledge. Science itself is a creation of the Catholic West, since the foundation of science is the conviction that the universe is knowable and worth knowing, that the human race is the steward of this universe, and that many good things can come from the stewardship of science. The scientific study of the Shroud is one of those things.

So, am I saying that the Shroud is the basis of our Christian faith? No, it is not the basis—but it *is* a testimony. The basis of the Christian faith is the Paschal Mystery of Jesus: his death, resurrection, ascension, and the gift of his Spirit. This basis has been preached and celebrated through the centuries. My office as bishop

is part of that preaching and celebration. The Shroud may well give us a physical evidence for the basis of Christianity, but it can only *support* our faith in the Paschal Mystery, not substitute for it.

Let me use a slightly different approach. There is a branch of theology called apologetics, the effort to make Christianity understandable and plausible by relating it to things that culture already understands and holds. Apologetics has taken various forms over the centuries and has had varying degrees of success. The most famous apologetic is the *Quinque Viae* of St. Thomas Aquinas, the five ways or so-called arguments for the existence of God. From motion, causality, contingency, gradation, and teleology, Thomas explains what all people mean when they speak of God. The Catechism of the Catholic Church summarizes apologetics soberly when it says,

Created in God's image and called to know and love him, the person who seeks God discovers certain ways of coming to know him. These are also called proofs for the existence of God, not in the sense of proofs in the natural sciences, but rather in the sense of "converging and convincing arguments," which allow us to attain certainty about the truth (CCC n, 31).

It has been remarked that the principal problem with these proofs is that they tend to convince only those who already believe. Nonetheless, they can be of some help to persons who are inquiring about religion, to persons who are open to the message of religion, to persons who are confused about religion, and so on.

The apologetic value of the Shroud falls into a similar category. Many of those who are persuaded of its authenticity as the burial cloth of Christ are already believers in Christianity. To them, the Shroud is one of the "converging and convincing arguments" of an apologetic that they really do not need for themselves. Something similar could be said for their attitude towards the miracles of healing who some think might be associated with the Shroud, dating back as early as Abgar V, a first-century King of Edessa in upper Mesopotamia, who, according to legend, was cured of leprosy by the Shroud. Like all miracles they can be doubted, but to believers they can be part of a pattern of "converging and convincing arguments."

Christian faith does not rest on the authenticity of the Shroud. It rests on the reality of the Resurrection of Jesus, a reality (not a fantasy) that can be known only by faith. This is the reality that the Catholic Church celebrates in its sacraments, above all in Baptism and the Eucharist. Here that event, which is known to

history, is not simply remembered, but, once again, *rendered present* in order to incorporate all participants to itself and to its saving power. There is one other category of Catholic theology and practice that may help us to place the importance of the Shroud in perspective, and that is the category of a sacramental. Sacraments are actual instruments of grace; they actually bring about what they symbolize. By contrast, sacramentals do not bring things about; rather they remind us of things.

Typically we think of such things as crucifixes, rosaries, statues, religious medals, and such, as sacramentals. They are not a necessity or an obligation of faith. They may or may not help this or that believer in celebrating or living the faith. If they are a help, the Church encourages their use. If they are not a help, they may be set aside, although they are always treated with reverence. Relics belong to the category of sacramentals, and the Shroud of Turin is such a relic. For those it helps to grow in faith, it is a source of spiritual efficacy. For those it does not, it is not binding.

I would like to share with you part of a meditation of Pope Benedict that was given on 2010 during his pilgrimage to Turin and the Shroud. Benedict called the Shroud an icon of Holy Saturday. Here are his words:

This is the mystery of Holy Saturday! Truly from there, from the darkness of the death of the Son of God, the light of new hope gleamed: the light of the Resurrection. And it seems to me that, looking at this sacred Cloth through the eyes of faith, one may perceive something of this light. Effectively, the Shroud was immersed in that profound darkness that was at the same time luminous; and I think that if thousands and thousands of people come to venerate it without counting those who contemplate it through images it is because they see in it not only darkness but also the light; not so much the defeat of life and of love, but rather victory, the victory of life over death, of love over hatred. They indeed see the death of Jesus, but they also see his Resurrection; in the bosom of death, life is now vibrant, since love dwells within it. This is the power of the Shroud: from the face of this 'Man of Sorrows,' who carries with him the passion of man of every time and every place, our passions, too, our sufferings, our difficulties and our sins. . . From this face a solemn majesty shines, a paradoxical lordship. This face, these hands and these feet, this side, this whole body speaks. It is itself a word we can hear in the silence. How does the Shroud speak? It speaks with blood and blood is life! The Shroud is an Icon written in blood; the blood of a man who was scourged, crowned with thorns, crucified and whose right side was pierced. The

image impressed upon the Shroud is that a dead man, but the blood speaks of his life. Every trace of blood speaks of love and of life.

Dear friends, let us always praise the Lord for his faithful and merciful love. When we leave this holy place, may we carry in our eyes the image of the Shroud, may we carry in our hearts this word of love and praise God with a life full of faith, hope and charity.

Conclusion

A priest of my acquaintance once told me about his first visit to the Basilica of Santa Croce in Gerusalemme, one of the pilgrimage churches in the city of Rome. The basilica stands on a site where the Emperor Constantine first built a church to house the Relics of the True Cross, brought back to Rome by his mother, St. Helena. A chapel in the basilica has a patch of unpaved ground, which is said to be topsoil from the Holy Land that was brought back to Rome at the same time; for this reason, the Romans and other pilgrims consider a visit to the basilica to be equivalent to a pilgrimage to the Holy Land. As we all know, there are many Relics of the True Cross, leading some cynics to joke that we could probably construct a new church building if we put them all together in one place. The priest who told me this story considered himself one of these cynics at the time of his visit. He told me that, as he stood before the windowed compartment in the rear of another chapel, where the relics were housed, he thought to himself, “These may or may not be the Relics of the True Cross . . . but what if they are?” And he genuflected, which is the proper protocol for such relics.

The arguments for and against the authenticity of the Shroud of Turin will probably go on for some time. I do not consider myself qualified to pronounce on them either way. People whose opinions I trust are persuaded that it is authentic; I would like to believe them. Many others are convinced that it is not authentic. We do know from Gospel accounts that Jesus was buried in a shroud. Perhaps this artifact is the same shroud, a closer link to his incarnate body, his violent death, and his glorious resurrection. If the debate helps us to feel a closer link to these central events in the history of the Christian religion, indeed in the history of the world, it is a positive value in and of itself. So let me conclude simply by rephrasing my friend’s question.

The Shroud of Turin may or may not be the authentic burial cloth of Christ.

But what if it is?