### The Brightest Light of All

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#### Abstract

There is a substantial body of evidence supporting the hypothesis that the Turin Shroud surface image was caused by a very brief burst of radiant energy. Our subject for discussion here is about how a dead body could produce the radiation. How did a corpse shine momentarily brighter than the sun? We postulate a dynamic interface between thought, light and matter which implies that the mind-matter duality resolves on the side of mind as the prime mover, that our physicality is a symptom of restriction of mind which when free transforms matter into light.

**Keyword:** Sentience, Radiance, Human Transfiguration

#### 1. INTRODUCTION

The one hypothesis that has been found to be consistent with all the evidence regarding the Turin Shroud is that the primary image on the cloth of the crucified body of a man was the result of a momentary burst of radiant energy [1]. This would account for the distance coded information, the "photographic negative" characteristics, the confinement of the image to the surface fibres and the absence of pigment in the main body of the image.

But How?...and Why? How did a corpse shine momentarily brighter than the sun?

Did he leave us a photographic negative imprint of the very moment of resurrection?

We do not appeal to the concept of "miracle" nor to the platitudes of "mystery" but intend to demonstrate through reasoned argument and scientific evidence that the possibility of such a phenomenon is not merely plausible but is self-evident from the fundamental axioms which describe what we humans call reality such as it is.

For example: E=MC<sup>2</sup> suggests that mass can be seen as being like 'condensed' energy [2] (e.g. Hawking radiation, electron-positron pair production etc.)

As yet E=MC<sup>2</sup> has not been generally considered to have relation to the sentient observer. Quantum theory, at least according to Erwin Schrödinger (and he should know) needs the presence of consciousness to bring the equations to life.

Physicists and cosmologists believe that a "theory of everything" would need to unite quantum theory with relativity through gravity.

Schrödinger himself contended that quantum theory was consistent with the unitary nature of consciousness. This would imply that fundamentally we are all one. However, our thoughts and actions belie this by our divisiveness, self-centredness, ego and ignorance, which could take

humanity to the brink of annihilation or "devolution" to become beasts.

If, as the equations, and our existence as incarnate sentient beings demonstrate matter is condensed "mind stuff" or "thought" then perhaps the man on the shroud conducted the greatest scientific experiment of all time by living a life that was an antidote to the qualities outlined above and therefore returned matter to the "light" from which it is derived.

#### 2. BACKGROUND

There are three dichotomies, which we would like to address that would seem to be recurring themes when trying to understand the shroud image. We would like to suggest that these apparent dichotomies resolve into consistent explanations once the polarities involved can be seen as two sides of one coin.

The first is the dichotomy between rational explanation and miraculous explanation.

Secondly there is the question of whether the man on the shroud was a single exception in the history of humanity or an example of what is achievable by all human beings.

Thirdly there is the duality of mind and matter. We would like to discuss evidence that rather than mind being an emergent property of atoms, actually atoms are an emergent property of mind. We would also like to discuss evidence that rather than humankind being merely "inhabitants" of space and time we as sentient beings are actually their *raison d'être* and *sine qua non*.

When I (Silverman) was a medical student 20 years ago I attended an inaugural lecture by the first British Professor of Parapsychology Prof Morris. The subject of his talk was to discuss scientific evidence for the existence of "PSI" i.e. extrasensory perception and/or the direct

influence of mind upon matter. During question time I raised my hand and said, "In raising my arm I have proved (at least to myself) that the mind can control matter"

It would seem that most people live their lives taking for granted every day that they are using free will to make choices. In fact it could be argued that even our systems of morality and law are based on the assumption that we are responsible for our actions.

It is an interesting exercise to consider what the ramifications would be to our scientific world view if free will were a fact.

The first step would surely be to define what we mean by free will.

Will, according to dictionary definition, implies determination by an act of choice.

The designation 'free' when applied to this suggests that there is no compulsion or 'force', which compels one to make a specific selection from available options.

This would mean that any sentient being that can exercise free will is able to harness what philosophers call a 'prime cause'.

Material structures such as planets, solar systems and galaxies or indeed an entire physical universe if it were devoid of sentient life would not in all its immensity have the power to perform this simple act of choice but would instead be continually following the dictates of force. To quote one of the founders of quantum theory Erwin Schrödinger:

"My body functions as a pure mechanism according to the laws of nature. Yet I know, by incontrovertible direct experience, that I am directing its motions, of which I foresee the effects, that may be fateful and all-important, in which case I feel and take full responsibility for them. The only possible inference from these two facts is, I think, that I—I in the widest meaning of the word, that is to say, every conscious mind that has ever said or felt 'I' am the person, if any, who controls the 'motion of the atoms' according to the laws of nature." [3].

Again as a medical student attending a public lecture in Dundee I heard Professor Sir Hermann Bondi speak about relativity. Bondi was an eminent theoretical physicist who was taught by Prof. Sir Arthur Eddington.

During question time I alluded to Einstein's time dilation Equation and asked Bondi whether he agreed that the equations implied that an observer travelling at the speed of light would be able to be everywhere instantly, 'all at once'.

He agreed that the equations allowed for the possibility but said that this was precluded because observers have mass and massive objects could not travel at the speed of light.

I then asked whether he agreed that nobody could weigh a thought and whether it was possible that consciousness could be manifested by a 'light' being if it could be manifested by a 'material' being. He replied that he had no theoretical objection but didn't believe this to be a fruitful line of enquiry.

I am sure many (if not most) readers will share his view but it is our contention that the shroud image provides material verifiable evidence of a phenomenon through which human beings are capable of transfiguration from matter into light.

That may sound a bold claim but some preliminary experiments suggest the possibility that the dead body of a man who many believe to have been the historical Jesus (Yeshua ben Yosef) arose from its resting place into a vertical position [8] and then momentarily shined brighter than the sun thereby forming the Shroud image [1].

#### 3. DISCUSSION

Schrödinger made some interesting observations about the nature of mind. He wrote a book entitled "What is Life?" published by Cambridge University Press. Professor Paul Davies said of this book that Schrödinger in its pages "..set down, clearly and concisely, most of the great conceptual issues that confront the scientist who would attempt to unravel the mysteries of life. This combined volume should be compulsory reading for all students" [4].

In this book he made some fascinating observations about the nature of mind. One is that mind is of fundamentally the same nature in all of us and that separation in individuality is only an apparent property related to the fact that we are divided in space and time because of our physical bodies.

It could indeed be argued that the property of sentience is the same in all of us and all that differs are our points of view and individual memories.

It could also be argued that the property of free will is the same for all of us and again that we differ in the choices we make.

The Einsteinian 'block' universe suggests that everything that has ever happened and everything that will ever happen already all exists together but Schrödinger observed that consciousness generates a "present" tense and made a startling deduction from this:

"I venture to call (the mind) indestructible, since it has a peculiar time-table, namely Mind is always now"

and "This means a liberation from the tyranny of old Chronos. What we in our minds construct ourselves cannot, so I feel, have dictatorial power over our mind, neither the power of bringing it to the fore nor the power of annihilating it"[3].

If we consider the possibility that the natural status of all sentient being is to be eternal and to be one with all other sentient being then the obvious question which arises is of course 'what is the origin of separation? How do we come to exist as individuals?'

Perhaps a clue can be found in the concept of limitation.

To explain this it may be helpful to consider the origin of the physical universe.

It is thought by many that the Universe may have come into existence out of nothingness at the big bang via a singularity.

If this is true and if Schrödinger was right that consciousness has no beginning or end then that would imply that we exist within (or beyond?) that singularity as unified, limitless being [5].

What then would have propelled our separation from this all-encompassing state into a physical universe where we would encounter old age, suffering, sickness and death - A universe of 'moths, rust and thieves'- a universe constantly dividing and dismantling according to the second law of thermodynamics?

If logic and reason are to be our guide in answering this question then perhaps it makes sense to believe that we are free from within the state beyond limit to elect to take on limit through choice.

If everyone were all-knowing always and everywhere, then there would be nothing to divide us as individual identities. If we chose to experience existence away from this 'idyll' then that choice would create separation. Whereas a state of union could be independent of space, time and matter, separation would seem to be virtually synonymous with them. What is space but the separation of points? [5].

At the big bang it would seem that space and time began together. There was an initial short phase during which the universe was prevailingly made up of photons which we will take the liberty of referring to as 'light' but very quickly as the 'temperature' dropped energy began to be converted into mass and became 'frozen' in the form of atoms (initially hydrogen and helium).

### I would now like to quote Stephen Hawking:

"There are something like ten million (1 with eighty zeroes after it) particles in the region of the universe that we can observe. Where did they all come from? The answer is that, in quantum theory, particles can be created out of energy in the form of particle/antiparticle parts. But that just raises the question of where the energy came from. The answer is that the total energy of the universe is exactly zero. The matter in the universe is made out of positive energy. However, the matter is all attracting itself by gravity. Two pieces of matter that are close to each other have less energy than the same two pieces a long way apart, because you have to expend energy to separate them against the gravitational force that is pulling them together. Thus in a sense, the gravitational field has negative energy. In the case of a universe that is approximately uniform in space, one can show that this negative gravitational energy exactly cancels the positive energy represented by the matter. So the total energy of the universe is zero.

Now twice zero is also zero. Thus the universe can double the amount of positive matter energy and also double the negative gravitational energy without violation of the conservation of energy... 'It is said that there's no such thing as a free lunch but the Universe is the ultimate free lunch'" [6].

We have argued that free will is the capacity to make an unforced decision between available options and is thus more likely to be found where force is absent. Force in its four manifestations (the nuclear forces strong and weak, electromagnetism and gravity- although a good case can be made that gravity should not be considered as a force) can be seen as the driver, the instrument of cause and effect in a material scenario. Will can perhaps best be understood as primary, independent causation.

In taking on limit we become less free as our range of options and awareness diminish.

If separation in the physical universe is the result of the will to separate, then perhaps what we call physical force is just what will has become out of that separation.

If something is free, it has to have no force making it do what it does. So if we have free will then this implies that we are able to cause something without our choice being caused by anything.

So we can see that will is what happens in a state of what we might call 'peace', where there is no force and perhaps force is what happens when will is no longer free. The reason matter obeys physical force, may be just that matter is what thought has become after this separation and force is what will has become [5].

We as living beings are always an amalgam of the two: mind and matter, will and force, awareness and ignorance.

Given the evidence equating the man on the shroud with the historical person of Jesus and given the palpable uniqueness of his life and the impact it has had on the world and is still having even after two thousand years have elapsed it would seem sensible to expect that we might find some clues to what happened on the day in first century Judaea when the evidence suggests that the image was formed.

Perhaps he showed us a recipe of how to undo the limitations and restrictions that bind us as separate human beings.

We have already suggested that the initial 'pre'-'big bang' singularity or 'the whole' is logically greater than the sum of its 'parts' i.e. greater than the physical universe, space matter and time.

We have also postulated that if one of the founders of quantum theory is right and that the 'conscious observer' can logically have no beginning or end then as sentient beings we must have a place in that singularity.

We have suggested that if 'force' only began at the big bang then perhaps the choice to experience separation was the 'cause' of the big bang rather than physical force being the cause.

We have suggested that separation is the 'starter motor' which begins the 'engine of decay' we know as the second

law of thermodynamics (please forgive the mixed metaphor!)

We have further inferred that the antidote to this is to lower the tension of separation between sentient beings through kindness and compassion such that matter can be released from the tension that separates us and in doing so begins to shine.

"Love thy neighbour as thyself" has great rational significance if Schrödinger was right when he wrote:

"It is impossible that this unity of knowledge, of feeling and of choice that you consider as YOURS was born a few years ago from nothingness. Actually, this knowledge this feeling and this choice are, in their essence, eternal, immutable and numerically ONE in all men and in all living beings (...). The life that you are living presently is not only a fragment of the whole existence; it is in a certain sense, the WHOLE" [7].

Perhaps then we have actually become separate beings, through our restrictions and limitations of mind, that stop us seeing the whole picture and that is what has made us become caught in a material physical universe and perhaps the life of the man on the shroud was showing a way to reverse that separation.

If mind is all one, but we make it separate through our restrictions and limitations, then it makes sense to love our neighbour as ourselves because our neighbour is our self. So actually we're all one and if we realise that, through how we live our lives, then we can undo the bonds of restriction that keep us separate and maybe then matter would begin to shine and the energy that is caught in atoms would be released.

Of course one could argue if that was the case then there would be the equivalent of many nuclear explosions worth of energy that would have been released. It would have completely destroyed everything around him, if all the mass was released as energy.

However, if the choice to separate was what made the universe happen in the first place, then perhaps reversing that might release that tension of separation and lower gravity.

There are many anecdotal reports from the time of Jesus that he was able to walk on water and was reported to have been witnessed rising above the ground.

If Hawking is right and the total energy of the universe is always zero then perhaps the reduction in mass-energy associated with human transfiguration is correlated with a reduction in universal gravitational energy so that energy is still conserved, as the summation of all energy is still zero.

Jesus himself always taught that all human beings had the potential to do what he did and it is reassuring that there are reports of other people for example the Buddha, Teresa of Avila, Peter (the apostle) who also are said to have been seen to show signs of not being bound by gravity. It is important though not to place too much emphasis on the physical manifestations of 'enlightenment' as some of these could perhaps be replicated in an empty way by technology. However, as was explained very clearly by many speakers at IWSAI at Frascati, the Turin Shroud image still can not be replicated even with 21<sup>st</sup> century technology.

It would seem fair to say that anyone who has seriously considered the evidence regarding the Turin Shroud image will have seen that this is unique and has properties that nobody today can reproduce. One could therefore surmise that we have three options:

- 1. It is a forgery. Although modern technology can not replicate it, mediaeval technology was more advanced than ours and so what is not possible today was possible many centuries ago.
- 2. It is a supernatural miracle and is supposed to be a 'mystery', which we can not understand and perhaps we should not try to understand it.
- 3. It is the product of natural law but science has not discovered the laws, which are relevant for explaining it.

The first option is quite easy to dismiss as not only would the forger have had to somehow reproduce the surface effect of the image but they would have had to add in distance-coded information and holographic properties in fine detail and with a knowledge of anatomy, pathology and forensics which would not be available for centuries and they would have had to have designed it to such a specification that would allow for future technological developments many centuries later before their masterpiece could be appreciated e.g. photographic equipment, image intensifiers, modern computers.

If the second option were true then our attempts to explain it will always be unsuccessful but unless or until someone can give us a rational justification for giving up the attempt then I hope the reader will forgive us for trying.

It is at the very least a fascinating challenge and one that could help provide an illustration of the significance of human beings in the cosmos. This could perhaps help us to see that the potential contained inside each person is beyond our imaginings and that their value and preciousness are commensurate with this.

It may seem unusual to talk about natural law when discussing the direct influence on and transformation of matter through the action of mind but yet quantum theory has demonstrated the pivotal role of consciousness in 'making reality real'

It is interesting that our 'western' scientific culture and in particular the empirical method can sometimes stunt our thinking when we try to understand the mind. We all understand the phrase:

"Cogito ergo sum - I think therefore I am."

While considering those words we can observe the fact that we are thinking and logically deduce that there is 'something' or an 'entity' which is doing that thinking. We identify that thing or entity as 'I' and deduce that 'I' exists.

Is this a scientific approach?

As all scientists know, the word science literally translated means a subject, which is pertaining to knowledge. The scientific method is often described as an attempt to understand or derive knowledge about the world through developing theories, which can be informed by and tested by reproducible observation.

However, many people equate the *scientific* method with the *empirical* method, which is actually subtly different.

The empirical method is specifically concerned with information gathered by the senses. This would mean that "I think therefore I am" could be scientifically tested but could not be empirically tested. As thoughts are invisible, silent, odourless, tasteless and intangible then is it the case that we can not know scientifically that we exist?

Many might say that this is not science but philosophy but if quantum theory (which is mathematically the most accurate and verifiable branch of science) depends on the existence of a conscious observer to collapse the wave equation then how can it be of no relevance to science whether or not we exist as conscious observers?

I would like to quote Schrödinger here one last time after all it is his wave equation we are discussing:

"We step with our own persons back into the part of an onlooker who does not belong to the world, which by this very procedure becomes an objective world".

"Colour and sound, heat and cold, are our immediate sensations. Small wonder that they are lacking in a world model from which we have removed our own mental person". "The objective world has only been constructed at the price of taking the self, that is, mind, out of it, remaking it mind is not part of it; obviously, therefore, it can neither act on it nor be acted on by any of its parts"

Empirical research has actually been very beneficial to us in helping us to see the evidence that the shroud image was not 'made by human hands'.

It has also been very informative through the work of eminent scientists who have demonstrated the evidence that the image seems to have been caused by a short, intense burst of radiant energy [1].

Also, empirical research has shown that this radiance would need to have emanated from the body of the man to account for the unique distance-coded and holographic properties of the image and that the image was formed at some point after the man had died.

It has also indicated that at the moment the burst occurred it would seem that the body of the man was upright and possibly suspended above the ground [8].

It is worth mentioning at this point that clearly there is more to this phenomenon than the burst of radiant energy. Unique and astounding though this is. There is also the clear implication that there was something happening in that tomb which caused a dead body to become risen before or during this process. This may, of course have been a moment of resurrection.

This raises the question of what it is that enlivens a body. As living human beings we perhaps all have something of this in us in potential and perhaps this is a message we were intentionally left by the man on the cloth.

We do have some ideas about this process which we feel in a position to justify with the appropriate application of relativity, quantum theory and human biology. We hope to discuss these speculations further in a subsequent paper.

"What might cause a dead body to rise up into the air and shine brighter than the Sun?"

It is our contention that to address this question we need to consider the 'place' where subjectivity and objectivity 'meet'.

Could it really be coincidence that this event which is seemingly unique in human history would appear to have involved the one individual out of all the billions who have lived who has arguably had the most impact on humanity through his teachings and how he lived?

If it is not coincidence then does it not seem reasonable that as scientists we could try to speculate about the relation between mind and matter? Speculation that would consider whether a certain disposition of mind manifested by a certain way of living might have the power to transform our world and the atoms of our bodies.

This transformation would arguably be comprehensible through reason and be congruent with natural law. However, to do this, we might need to extend the subject matter of science beyond purely empirical observation. This is simply because within the empirically observed universe there is no such thing as mind. As Schrödinger pointed out the empirical model has been created by removing 'us' as conscious observers from the model as mind can not be observed by the senses. This is despite the fact that there are no senses without a mind to perceive them.

It is interesting that the science of psychology once made an attempt to understand the mind in an empirical sense, ignoring the subjectivity and seeing human beings as what physicists would understand as a 'black box' where only inputs and outputs are studied. This particular fad fell flat on its face for obvious reasons and thankfully has now gone out of fashion in psychology!

Is it possible that the man whose image is on the cloth was actually the greatest scientist who ever lived?

Is it possible that his life was a de facto experiment, which tested whether it is possible for the human mind and being to be transformed through uniting instead of separating? To be restored to what may have been its original status at the origin of the universe as omnipresent, omniscient 'being'.

Jesus himself always, of course, stressed that all his

achievements were reproducible and constantly referred to the untapped, limitless potential of all human beings for example when he drew people's attention to the 'old testament' scripture saying:

"Is it not written 'You are gods'?"

#### 4. CONCLUSIONS

We have started from the experimental results that suggest the possibility that the shroud image may well have been caused by a short, intense burst of radiant energy [1] emitted from the body of a vertically 'risen' crucified man [8].

We have attempted to make some educated speculations about the mechanism that could give rise to this unique phenomenon.

To do so we have suggested that we need to use a working model of what is often referred to as the "connection between mind and matter" but which we prefer to see as the 'mind-matter continuum"

We have suggested that the speed of light can be seen as an interface between temporal existence as identities with locations in space and time and an omnipresent, omniscient state of existence from which these identities may be derived.

Just as photons transformed into matter shortly after the 'big bang' of universal separation we have suggested that it would not be surprising if a putative reversal of the process which instigated this separation would be associated with the transformation of matter into 'light'. Bearing in mind that the initial formation of matter was offset according to Hawking by an increase in gravitational energy [6] we have considered the possibility that its reversal could accordingly reduce gravitational energy such that human transfiguration into light would not be associated with an explosion.

We have discussed the possible role of 'free will' in primary causation and the possibility that the manifestation of the property of sentience and free will implies that we as human beings could transcend time, space and matter as 'now' is 'now' through sentience [3].

We have considered that this could imply that all sentient being already existed in the 'pre' 'big bang' singularity and that perhaps it was the choice to experience separation that actually began the big bang [5].

We have seen that separation means that we are limited by our particular point of view and considered that qualities of mind and behaviour which enhance separation such as selfishness, racism, xenophobia and materialism actually cement our fixture in this universe of 'moths, rust and thieves' or, to use more modern terminology, a universe governed by the second law of thermodynamics where the 'arrow of time' is defined by increasing disorder.

We have considered that if, as we have argued, free will is an absolute in this universe of relativity then it is not pre-determined that we have to follow the momentums of separation.

We have suggested that 'love thy neighbour as thyself' is ultimately vindicated by a realisation that as the centre of our existence as sentient beings is logically beyond time and space actually we are all one and our neighbour is ourself.

Perhaps the man on the cloth realised this deeply enough through his actions and how he lived his life that he made it a reality rather than just a potential.

Unless an alleged mediaeval forger had technology way in advance of our 21<sup>st</sup> century technology then we would surmise that the unanswered questions concerning the shroud may give us a clue to a new understanding of the world and the potential of all human beings.

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