

Is human a mere shadow in the walls of a higher dimensional space to be resurrected to his full glory in the future?

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Abstract

The Holographic principle is expounded to provide a scientific understanding of the Biblical passages where human is created as an 'image of God' and then later "to be like Him" in the resurrected life. The application of the Holographic principle to string theory provide evidence that humans can be viewed as shadows on our four dimensional space, which forms the boundary to a five dimensional universe we are yet to perceive. String theory permits the presence of dimensions more than our familiar four which consist of three space and one time variables. Since all the information present in the four dimensional universe is also present in the five dimensional universe this information can be resurrected to form the higher dimensional true being. Such evidence from science complement the revelations found in the Biblical texts regarding human as an image of God and the hope of the faithful to have a resurrected body like Him.

Keywords: Holographic principle; string theory; image of God.

1. Introduction

In Genesis we read:

'Then God said, "Let Us make man in Our image, according to Our likeness; and let them rule over the fish of the sea and over the birds of the sky and over the cattle and over every creeping thing that creeps on the earth." And God created man in His own image, in the image of God He created him, male and female He created them.' [Genesis 1: 26, 27]¹.

Later in the New Testament we read:

¹ The quotes from the bible are taken from the New American Standards Bible, Reference edition, Foundation press, CA, USA.

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"Beloved, now we are children of God, and yet it has not appeared as yet what we shall be. We know that, that when He appears, we shall be like Him, because we shall see Him just as He is" [1 John 3:2].

"For the anxious longing of the creation waits eagerly for the revealing sons of God." [Romans 8:19].

In the above Biblical passages we observe humans being referred to as the 'image of God' and then later in the New Testament passage that they 'will be like Him'. The later passage embodies the hope of the faithful. This aspect of the human being referred to as an image of a higher dimensional reality not realized at present but hoped for in the future is the topic that is being studied here. The study undertaken here is to determine whether this revelation in the Biblical passages where the human is viewed as an image of a high dimensional reality not yet realized, has any counterpart in science. Is there any scientific evidence which suggests or support such a concept of a human being considered as an image of a higher dimensional reality, which at present we cannot perceive? Further is there any scientific evidence which suggest that a transformation from the image to his full self is a possibility? This study is not about the exact identity of the higher dimensional reality. Further the study is also not about the understanding in the manner in which humans exist as the image of God^{2 3} or about the intermediate state⁴, the state that is after death and the final transformed state of eternal life with the Lord. The paper also does not discuss about the feasibility and the manner in which this transformation from the image to the higher dimensional being will take place; where it will take place; or who will be eligible.

² Millard J. Erickson, *Christian Theology*, (Grand Rapids, MI: Baker Book House, 1994), 498-510.

³ Millard J. Erickson, *Introducing Christian Doctrine*, 2nd ed. (Grand Rapids: Baker Book House, 2001), 172-175.

⁴ B. G. Edgar, 'Biblical anthropology and the intermediate state', *The Evangelical Quarterly* (2002) vol LXXIV, 27-46; 109-122.

The focus of this paper is to determine whether there is any scientific thought that can be deduced from known scientific principles or theory that will allow us to conceive the concept that a human can be viewed as an image of a high dimensional being which at present we cannot perceive; and the possibility of a transformation to his full reality in the future. It is hoped that this study which relies on scientific evidence will not only complement our understanding of the Biblical passages mentioned above but also encourage further dialogue between the Christian faith and science.

This study led us to examine the Holographic principle which relates a theory in space to a theory defined only in the boundary of that space. This 'Holographic principle' will be explored here to show the Biblical view, that the human in this universe is an image of God who has at present not attained his real state but is awaiting for this transformation to his true self in resurrection, is not far fetched and confined to the faithful. Instead such an idea can be deduced from the Holographic principle. In section 2 of this paper a basic exposition of the Holographic principle is given and how it could be exploited to provide a concept similar to the revelation in the biblical texts mentioned previously. Section 3 is the conclusion.

2. Holographic principle and its implications

The Holographic principle was put forward by the Dutch theoretical physicist G.'t Hooft⁵. Later it was given a precise string theory interpretation by L. Susskind⁶. String theory is a unified theory, "a theory of everything" that tries to explain the behavior of particles at the sub-atomic level and the expanding universe. The Holographic principle is about encoding information from a higher dimensional space ($D+1$) space onto a lower dimensional D space. For example the two dimensional interference patterns on a photographic plate from an object contain all the information to recover the image of the three-dimensional object. Another illustration is found in the

⁵ G.'t Hooft, 'Dimensional reduction in quantum gravity' (1993)
http://lanl.arxiv.org/PS_cache/gr-qc/pdf/93109310026v1.pdf

⁶ L. Susskind, 'The World as a Hologram' (1995) *J. Math. Phys* 36: 6377-6396. [arXiv:hep-th/9409089](http://arxiv.org/abs/hep-th/9409089).

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derivation of the entropy or information of matter-energy inside the black hole from the surface of the event horizon. The event horizon is the surface or outer boundary around the black hole, beyond which nothing can escape from within it. The holographic principle allows a physical theory to be translated into a different form, for example the physics in a volume of space to be alternately and completely described by a theory that exists at lower dimensions on the boundary of that volume.

The principle assertion of the holographic principle is that all of the information contained in some region of space can be represented as a 'Hologram' - a theory which 'lives' on the boundary of that region⁷. For example, if the region of space in question is a room, then the holographic principle asserts that all of the physics which takes place in that room can be represented by a theory which is defined on the walls of that room. There are two aspects of this principle that we shall discuss, one regarding 'shadow' and the other about another 'parallel universe'. Let us look at the first aspect. Does the holographic principle imply that all the information in your body can be represented by your shadow? This question can be looked at in a different way. Are humans 'shadows' or an 'image' of a higher dimensional reality?

Let us examine this latter view of humans being considered as an image of a higher dimensional reality. Since we live in a 4 dimensional world (3 space and one time), this would mean that humans can be viewed as shadows on the walls of a 'room' where the 'room' is some 5 dimensional space-time. The 4 dimensional world being just the boundary, the walls of this 'room'. Only if we move away from the wall, we will experience the extra dimension of space. As long as we are on the boundary we cannot perceive the higher order of reality. This way of looking at human via the holographic principle finds support from a paper by Juan Maldacena⁸. Inspired by the holographic principle he proposed the anti-de Sitter/conformal field theory correspondence or the AdS/CFT

⁷ <http://www.damtp.cam.ac.uk/research/gr/public/holo/>

⁸ Juan M. Maldacena (1998). "The Large N limit of superconformal field theories and supergravity". *Advances in Theoretical and Mathematical Physics* 2: 231-252. [arXiv:hep-th/9711200](https://arxiv.org/abs/hep-th/9711200). [Bibcode 1998AdTMP...2..231M](https://arxiv.org/abs/hep-th/9711200).

correspondence. This brought the holographic principle to center stage in string theory. It refers to the duality between theories without gravity and theories with gravity. An example of this is the duality between a gauge theory defined on a 4-dimensional boundary (three space dimensions and one time dimension) and string theory in a 5-dimensional region (four space dimensions and one time dimension). String theory permits dimensions higher than 4. In essence there is a connection between the four dimensional space and a higher 5 dimensional space. This correspondence lends evidence to the scenario that humans can be viewed as shadows on the boundary of a 5 dimensional space time.

Let us look at a simple illustration to provide more understanding on this issue. Consider the example where we live on our computer screen and thus restrained to move in two space dimensions and one time dimension. The computer on the other hand exists in 4 dimensions (3 space and one time). Thus our experience would be 3 dimensional (2 space and 1 time) instead of 4. This would make it difficult for us to experience or detect the extra dimension unless we step out of this constrained low dimensional space. Further our inability to perceive the higher dimension does not mean that it does not exist.

In the allegory of the cave or the parable of the cave Plato⁹ the Greek philosopher describes a group of people who have lived chained to the wall of a cave all of their lives, facing a blank wall. The people watch shadows projected on the wall by things passing in front of a fire behind them, and begin to ascribe forms to these shadows. To these people, the shadows represent the totality of their existence - it is impossible for them to imagine a reality which consists of anything other than the fuzzy shadows on the wall. The shadows are as close as the prisoners get to viewing reality. However, some prisoners may escape from the cave; they may go out into the light of the sun and behold true reality. When they try to go back into the cave and tell the other captives the truth, they are mocked as madmen. To Plato this story was meant to symbolize captivity

⁹ http://en.wikipedia.org/wiki/Allegory_of_the_Cave

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of mankind and the struggle to reach enlightenment and understanding through reasoning and open-mindedness. However in our context the interesting aspect is the literal interpretation of Plato's parable, the idea that reality could be represented completely as 'shadows' on the walls.

The other aspect of the Holographic principle that is of interest here is the implication that there is another universe of higher dimension, which we do not perceive. The universe we perceive is the bounding surface to this higher dimensional universe. Brian Greene in his book, *The Hidden Reality*¹⁰ states:

"Our experiences here, and that distant reality there, would form the most interlocked of parallel worlds. Phenomena in the two - I'll call them Holographic Parallel Universes - would be so fully joined that their respective evolutions would be as connected as me and my shadow".

The presence of such a higher dimensional universe would mean that there is another universe where we can realize our full being. If we are present there, then one would be able to perceive his full self instead of his shadow. As long as we are in the bounding surface of this higher dimensional universe what we behold is a shadow of our true self.

According to the Holographic principle all the information present in the bounding surface of the four dimensional universe is present in the higher five dimensional universe. Thus the possibility of utilizing this information to resurrect the true being in a five dimensional universe is an idea that cannot be dismissed. For example the three dimensional object is reconstructed from the information present in the two dimensional hologram by illuminating with the right kind of light. Just as a two dimensional hologram is used to reconstruct the three dimensional object, the information of the human in the bounding surface of the higher dimensional universe, which is also available in the higher dimensional universe, can be utilized to restore the full multi-dimensional glory of the human in the higher dimensional universe. Such a

¹⁰ B. Greene, *The Hidden Reality: Parallel Universes and the Deep Laws of the Cosmos* (2011) publishers Knopf Books/Random House

possibility as evident from science complements the revelations found in the Biblical texts, where it is the hope of the Christian faithful that they will be resurrected from being an image of Him to be like Him.

3. Conclusion

In this paper an attempt is made to determine whether there is any scientific thought that can be deduced from any known scientific principle or theory that will allow us to conceive the concept that a human can be viewed as an image of a high dimensional being which at present we cannot perceive, but is awaiting for this transformation in the future. It found that the Holographic principle provided such evidence. The principle assertion of the holographic principle is that all of the information contained in some region of space can be represented as a 'Hologram' - a theory which 'lives' on the boundary of that region. We live in a four dimensional space-time universe. This information present in this boundary is also contained in a five dimensional universe which we do not perceive at present. This information present in the five dimensional universe could then be used to resurrect the true self yet to realize in the five dimensional space. As long as we are in this four dimensional universe we are like a shadow or an image of our true self in the five dimensional space. When resurrection takes place in the five dimensional space then we will no longer be like the image in the four dimensional space, but instead be the full five dimensional being.

Such an idea resonates with the Biblical view of the human as an image of God and the restoration to his true state in resurrection. As Paul says: *"things which are a mere shadow of the things to come"* [Col 2: 17]. As long as we are in this boundary we cannot experience our full reality.

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