

An inquiry exploring the link between cosmology and spirituality

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Introduction

This inquiry attempts to explore the link between spirituality and cosmology and how this can be approached and explored in art practice. By researching the fundamental ideologies of both concepts, the research seeks to explore possible connections and paradoxes. By bringing together these two concepts, my research will also allow for a logical judgement on how to make further sense of the world we live in today. Society, environmental issues, religion, consciousness and science will all be addressed, supporting how they are impacted by cosmology and spirituality. The beginning chapter will delve into theories of cosmology, the science of the origin and development of the universe. My research from cosmology will then take this inquiry down a path of exploring spirituality and how it can be linked to these concepts. By studying art, the second chapter aims to address these connections in a creative, artistic way. My own art will then be discussed and how I have taken my own approach to the idea of cosmology and spirituality being intertwined.

Chapter One – A Complex Relationship

There is a widely held belief in the argument that spirituality and cosmology cannot exist, one without the other. Albert Einstein was one of those who believed this to be

true, he spoke often about his spiritual beliefs and once said: “Some Spirit is Manifest in the Laws of the Universe, One that is Vastly Superior to that of Man” (Jammer, 2011).

The universe is so vast and sublime that it is impossible for humankind to properly comprehend it with science alone. There is also a widely held belief that humans need to have a spiritual outlook in life, whether that is by following a particular religion or simply holding a less specific yet transcendental belief. A spiritual belief of any kind can allow people to be more in touch with themselves and the world around them. It can also often help individuals have better morals and be a better person in general. Many studies show this to be the case and a lot of psychologists can vouch for this.

“Spirituality is linked to many important aspects of human functioning—spiritual people have positive relationships, high self-esteem, are optimistic, and have meaning and purpose in life.” (Howell, 2019).

Alongside these beliefs, it is also crucial to take science into consideration in order to understand the world in a mathematical sense. The beginning of the universe, for example, is the greatest mystery of all time, inspiring hundreds of different theories to help us understand what happened at the very start. The most prevalent and accepted account of what scientists have observed is, of course, the Big Bang theory. “The most popular theory of our universe's origin centres on a cosmic cataclysm unmatched in all of history—the big bang.” (Greshko, 2017). This thesis states that at the beginning of the universe there was an incredibly hot, small and dense super force (the mix of the four fundamental forces), with no stars, atoms, form, or structure, called the *small*

singularity. “In the first 10⁻⁴³ seconds of its existence, the universe was very compact, less than a million billion billionths the size of a single atom” (Greshko, 2017). When matter gathers it produces gravity, and more gravity attracts more matter, and so on. This created the form of atoms. which inflated over the next 13.8 billion years to the cosmos we know today. “The universe is currently estimated at roughly 13.8 billion years old, give or take 130 million years.” (Choi, 2017) The universe is still expanding now and getting colder as time goes on. From this fact alone we can assume that as the universe expands, the rate of expansion increases and temperature drops. Therefore, this is good evidence for the Big Bang theory, as it concludes that if theoretically, we turn back time, in the beginning, the universe must have started with a very hot, small singularity. We can make sense of the theory through logic, however, the theory itself comes from mathematical formulas and models. Scientists and astronomers are able to see the “echo” of the expansion of the universe through a phenomenon acknowledged as the cosmic microwave background. “The cosmic microwave background (CMB) is thought to be leftover radiation from the Big Bang or the time when the universe began.” (Howell, 2018) This is more proof that the theory is accurate. The origin of the theory began in 1927 when a Belgian Catholic priest Georges Lemaître, proposed an expanding model for the universe to explain the observed redshifts of spiral nebulae, and calculated the Hubble Law. “In the 1920s, the Belgian described in French how the expansion of the Universe would cause galaxies to move away from Earth at speeds proportional to their distance.” (Gibney, 2018) He based his theory on the work of Albert Einstein and Willem de Sitter, and independently derived Alexander Friedmann's

equations for an expanding universe. "Hubble's law is the statement in astronomy that galaxies move away from each other, and that the velocity with which they recede is proportional to their distance. It leads to the picture of an expanding universe and, by extrapolating back in time, to the Big Bang theory." (Bartlett, 2019). The Hubble Law is what we are able to study to come to the observation that the universe is in fact expanding. We can observe this by analysing the constant, growing separation of galaxies from one and another. However, with these explanations, and our understanding of the Big Bang theory, scientists and theorists have yet to propose a valid explanation for what happened before the Big Bang. In theory, and according to the scientist Stephen Hawkin, before the Big Bang, there was absolutely nothing. He says that neither time or space existed before. "You can't get to a time before the Big Bang because there was no time before the Big Bang. We have finally found something that has no cause because there was no time for a cause to exist in," (Hawking, 2018)

So, therefore, it is impossible to measure events before the Big Bang because time in the way we recognise it, simply did not exist. This poses many questions, such as, what caused the Big Bang in the first place? Was there anything before the Big Bang? Did anything exist before time and space began? Are there other universes? Does it even make sense to refer to a time before time itself existed? Is this the first and only universe? Did the Big Bang naturally occur or did something trigger it? What created the singularity that started the Big Bang?

Although all of these questions remain unanswered, there are other hypotheses for what may have happened before the Big Bang, and theoretical answers for many of the questions. A hypothesis called the “mirror universe theory”, suggests that our universe is a mirror image of the one that existed before the Big Bang. “In the anti-universe before the Big Bang, it suggests, time ran backwards and the cosmos were made of antimatter instead of matter.” (Christian, 2019) So, what we can assume is that instead of that universe expanding, through its entire lifespan it was contracting until it reaches the small singularity that then caused the Big Bang. “In the previous universe, everything was reversed including time. Before the Big Bang, time went backwards in the universe, and particles were antiparticles. If you were to crack an egg in this anti-universe, from our perspective in time it would seem to go from a puddle of yolk to a cracked egg, to an uncracked egg, to inside the chicken.” (Al-Ghaili, 2019)

There is another theory called the Multi-Universe theory/the Many-Worlds Interpretation of Quantum mechanics:

The Many-Worlds Interpretation (MWI) of quantum mechanics holds that there are many worlds which exist in parallel at the same space and time as our own. The existence of the other worlds makes it possible to remove randomness and action at a distance from quantum theory and thus from all physics. (Vaidman, 2019)

This hypothesis, just like many others, simply suggests that the only ways in which we allow ourselves to understand the universe and our own existence are through modes, formulas and mathematics. One could argue that the amount of different theories alone suggests that we can hypothesise that there is, in fact, absolute nothingness, there

never has been and there never will be. It could be argued that science is unable to prove anything if you take into consideration that everything scientific is just a mode of knowing and a human construct designed for our understanding. To believe in science as the only explanation for the universe, without taking this into consideration, could be argued to be a somewhat egotistical way of thinking.

New Age author Deepak Chopra has said that solely believing in science would imply an assumption that the human experience is the only one that exists and the only one that matters. “Everything we see and are, for example, furniture, nature, grass, the ocean, our own bodies, is just a projection of the conditioned mind. Just because it is our reality, it doesn’t mean it is real.”(Chopra, 2019). Along with Chopra, scientists have also acknowledged that the existence of matter cannot be proven. We cannot, in fact, prove anything is real outside of our general perception and understanding of our reality. This concept that the universe does not exist if we do not perceive it is called the Participatory Anthropic Principle. John Wheeler, a scientific theorist constructed this theory and said: “no phenomenon is a real phenomenon until it is an observed phenomenon.”(Wheeler’s, 2019). From this, we can reason that we are the universe not only experiencing itself but manifesting itself. This notion has lead to many spiritual beliefs, the main one being Pantheism:

“a religious belief that includes the entire universe in its idea of God. A person who follows the religious doctrine of pantheism believes that God is all around us, throughout the whole universe.”
(Vocabulary.com, 2019)

It is a belief that seems to attract a lot of scientists which is unusual, as most people suspect very few scientists to be anything but atheists and only believe in science. However, many physicists in particular, after studying their work, appear to have pantheistic speculations. A physicist Andrei Linde, who has shown indications that he has a pantheistic ideology said: "The universe and the observer exist as a pair. I cannot imagine a consistent theory of the universe that ignores consciousness." (Lanza, Berman and Mcknight, 2009, p.178) . Even though these concepts have been explored for centuries, it is only now that more people are becoming more familiar with these theories and the Pantheist religion.

"Mainstream science will tell you that all you can see, touch and perceive, from an earthworm to your body, to a flower, to a rock, are all composed of atoms and that all of these atoms are composed of electrons, and the nuclei in the so-called centre of those atoms are protons and neutrons. If electrons, protons and neutrons are not matter but rather a form of gravitationally trapped light, that therefore suggests that matter itself does not exist. Matter is a word that has been concocted by science to describe a phenomenon that is not truly understood. So, if what appears to be physical around us is not matter and our bodies are not matter then who and what are we and what is this universe that surrounds us?" (Traitz, 2019)

Is all we are and know (the universe) just one massive energy source?

Albert Einstein discovered that when we tear matter apart, we get molecules, and when we tear molecules apart we get atoms, and when we tear atoms apart we get protons, neutrons and electrons, when we tear protons, neutrons and electrons apart we end up with energy, but the energy itself appears to be living energy. (Traitz, 2019)

Within the universe, there are different types of energy, one of the biggest mysteries of them all being dark energy. We currently have no idea what dark energy is, but we can in a scientific sense prove that it exists and is all around us. In fact, according to NASA, 68% of the universe is dark energy.

It turns out that roughly 68% of the universe is dark energy. Dark matter makes up about 27%. The rest - everything on Earth, everything ever observed with all of our instruments, all normal matter - adds up to less than 5% of the universe.” (Science.nasa.gov, 2019)

Considering this, if we established what dark energy is then that could potentially change everything we understand about the universe at this point in time. As well as dark energy, scientists also suspect there is such thing as dark matter, which we also have very little understanding about. “We are much more certain what dark matter is not than we are what it is.” (Science.nasa.gov, 2019) The reasoning behind the word “dark” in both of these theorised terms is because:

it does not appear to interact with observable electromagnetic radiation, such as light, and is thus invisible to the entire electromagnetic spectrum, making it undetectable using existing astronomical instruments. (En.wikipedia.org, 2019).

As NASA says, 27% of the universe is dark matter so this means we are only able to see and understand 5% of the universe. This is so alarming and astonishing that it is very difficult to even begin to comprehend. Nevertheless, although we do not currently understand it, scientists are trying to rationalize it every day. A group of artists worked with Sanford Underground Research Facility to produce artwork on their research on dark matter. “This committee invited a couple of dozen painters, sculptors and photographers from around South Dakota to tour the underground lab and then create work for a show on the surface titled “Into the Dark: Artists Exploring Dark Matter.” (Harlan, 2013) An artist who worked on this project, Nancyjane Huehl, produced abstract work on the topic of dark matter and described the exploration for dark matter “the hunt for the unicorn” (Huehl, 2019). “Yes, we saw Unicorns Underground and the

metaphor was not lost on us - once we saw the first one - the rest of the "hidden" became visible" (Huehl, 2019).

It could be argued that all of this uncertainty and our inability to prove that we actually exist at all, is the perfect catalyst for people to start delving into spirituality and religion to find answers. The key inquiry of this essay is the relationship between cosmology and spirituality and whether they could possibly be linked. The definition of spirituality can be different depending on perspective, however, it is usually described as the sense of connection to something bigger than ourselves and having a more open consciousness. "It is the process of awakening from ordinary consciousness, rising above the ego and awakening to a wider consciousness. It can mean expanding the mind beyond limitations, thoughts, and limited viewpoints about life and the Universe" (Sasson, n.d.).

This 'awakening' may be a belief in a god or that the universe itself has an awareness and is all connected. The question of whether spirituality and cosmology are linked seems arbitrary, as it is difficult to believe you can have one without the other. Without actual proof of our existence, all we have is awareness so, therefore, to dismiss science would be a contradiction to a part of our awareness. Simultaneously, however, it is very evident that with the great uncertainty we have when looking at of the universe with science alone, there must be something greater than ourselves. Science and cosmology are part of our awareness, but they do not answer many questions. As

previously stated, they are just modes and mathematical techniques for trying to make sense of something we do not understand, yet, we cannot dismiss them altogether.

Chapter Two – Some Artistic Approaches

Peruvian artist and shaman, Pablo Amaringo (1938-2009), made a series of paintings whilst under the influence of a psychedelic drug called ayahuasca.

The visions released by the ayahuasca brew have cosmological significance as well as medicinal purposes. Both attributes are present in Amaringo's colourful and complex canvasses, which he produced while under the brew's influence (Aptaker, 2018)

Taking ayahuasca is known for its profound spiritual awakenings in people. In many of Amaringo's paintings, he creates art which combines both the spiritual world and the so-called "real" world. "Amaringo's spiritual visions were not mere ayahuasca induced fantasies but based on acute observation and understanding of the real, organic world. In this way, Amaringo was able to relate our everyday world to the metaphysical one he believed exists around us." (Aptaker, 2018). By bringing both realms of consciousness together, this creates a whole new metaphysical realm in itself, a new way of perceiving the universe by combining the physical with the spiritual. We may be unable to see the metaphysical realm with our eyes, yet that does not mean it is not there.



Fig. 1: (Amaringo, 2011)

Our eyes can only see because of reflections of light, so what if there are other ways of seeing that our bodies are incapable of? There may be things all around us that we cannot see because our eyes do not work in a way that allows them to be seen. Without addressing the vast complexities of quantum mechanics and general relativity, it is worth considering the concept of the 10 dimensions: “according to this branch of theoretical physics, there are at least 10 dimensions of space, most of which are impossible for humans to perceive.”(Debczak, 2019). Here, science acknowledges the idea that just because we cannot visually perceive certain things, it does not mean they do not exist.

Our uncertainty when it comes to the universe could be considered to be beautifully poetic. So much so that our confusion has inspired people for thousands of years to create art, stories, myths and legends about it. This confusion could also possibly be considered where our religions began. Almost every ancient culture came up with its own creation story. "According to some estimates, there are roughly 4,200 religions in the world." (En.wikipedia.org, 2019) People may have wanted to make sense of what, who they were and where they came from, so they created the idea of a God, an entity greater than them to explain how they came to be. Whether we believe in a God or not today, through scientific research we can analyse that our bodies are made from the aftermath of dying stars.

We have the most intimate of relationships with the cosmos. The common chemical elements on Earth came into being through the creation and destruction of stars. The carbon and oxygen in our flesh, the iron in our blood and the phosphorus and sodium in our brain cells were all made in the generation of stars that preceded the birth of our Sun. Humans are literally and essentially star-stuff. (Phaidon Editors, Malin and Murdin, 2017)

This perspective holds a great number of spiritual concepts. By saying that we and everything around us is essentially made of stardust then we can make the connection that everything in the universe is intertwined.



Fig. 2: (*Metamorphosis*, Nickolls, 2012)

Australian artist Trevor Nickolls (1949-2012) produced a painting in 2012 entitled *Metamorphosis*. The painting explores his experience with religion and spirituality, along with his personal journey of transcending from the physical world into the spiritual.

I am Aboriginal and also have other ancestry and was brought up Christian. In a number of my works I have tried to capture the spiritual connection Aboriginal people have to the physical world around them, the land, sea, animals and cosmos.... everything is interconnected in this world. (Art Almanac, 2019)

Nickolls and other artists, along with scientists and physicists, have suggested that the universe itself is conscious. A veteran physicist at New York City College of Technology, Gregory Matloff, argues this point is true. He calls this universal consciousness of space and everything we know a 'proto-consciousness field'. "Stars

may be thinking entities that deliberately control their paths. Put more bluntly, the entire cosmos may be self-aware.” (Powell, 2019)

Visual art is an eminent way of portraying ideas such as those relating to what happens after we die, the idea of a soul and the overall relationship between the “real” world and the spiritual world. Another Australian artist, John A Douglas, created a series of images whilst he was suffering from kidney failure, an illness that meant he could only remain alive by being hooked up to a dialysis machine.



Fig. 3: (*Body Fluid*, Douglas, 2013)

The images show landscapes of nature with Douglas in the foreground wrapped in a gold bodysuit, often levitating, being hooked up to a dialysis machine. “The work seeks to transform the daily life support treatment that the artist has endured for several years and serves as a reminder of the fragile balance between life and death”. (Douglas,

2019) This balance between life and death harmonises with the balance between the physical world and the spiritual. Finding a connection between them both is a journey that only an individual person can undergo by themselves. The connection could mean different things to different people. A great platform for artists who are interested in exploring this and spirituality, in general, is The Blake Prize. Since it was conceived in 1951, it has been one of Australia's most famous and prestigious prizes which incites discussion about religion and spirituality through art. The prize takes its name from the world-famous 18th Century artist and poet, William Blake, "who threaded the religious and artistic throughout his practice". (Casulapowerhouse.com, 2019)



Fig. 4: (*The Ancient of Days*, Blake, 1794)

Though religion can often be controversial and at times discriminative, The Blake, encourages all people to submit work and does not exclude anyone.

The Blake is an exercise in normalising religion, stripping it of irrational fears and bringing it back to everyday life. It would like to portray "spirituality" as an infinitely varied, completely benign lemonade that everyone may sip. Spirituality is a soft category, whereas religion is a hard one. Spirituality is a matter for the individual, whereas religion requires a community of believers. Countless wars have been fought over religion, but none over spirituality. (McDonald, 2019).

Having platforms like this is an important way to normalise and remove the negative stigma behind religion and spirituality. People have been pondering the link between spirituality and the cosmos for thousands of years, so surely it's only natural to continue to delve into the infinite amount of possibilities through art as an expression. A great example to measure how long we have been curiously observing the cosmos is by looking at British contemporary artist Katie Paterson's work called *Totality*. It is a large mirror ball with the tiles being mirrored in the shape of 10,000 eclipses.



Fig. 5: (*Totality*, PATERSON, 2016)

Those eclipses replicate almost every solar eclipse documented in human history including the earliest drawings from 1778, early 20th century and the most current photographs.

Patterson gathered images from observatories and picture libraries around the world to created *Totality*... She collaborates with cosmologists and astrophysicists to bring together human and cosmic scales in works that make the ungraspable tangible by expressing the infinite times, expansive scale unfathomable distances of the universe.”(Phaidon Editors).

The light that hits the mirror ball allows for thousands of reflections around the room of solar eclipses. The visuals provide the viewer with a reminder of the scale of the universe in terms of vastness and age. The moon itself is so minuscule in comparison to our earth and our solar system alone, without even considering the rest of the universe. “The Moon has a diameter of 2,159 miles (3,476 kilometres) and is about one-quarter the size of Earth. The Moon weighs about 80 times less than Earth.” (Cool Cosmos, n.d.). Considering these facts whilst viewing *Totality*, makes the artwork even more elaborate. The fact that the solar eclipses on the mirrors are all human documented images, brings together a particularly human way of perceiving the cosmos with art which feels very spiritual. “In these familiar forms, the mundane and the sublime are poetically combined to connect the brevity of human life to the unending vastness of the cosmos.” (Phaidon Editors)

Many Asian cultures in the East have been studying astrology for hundreds and thousands of years and their continuing exploration of the mystical and spiritual has led to their artwork being uniquely stylistic, including beautiful paintings and drawings of the cosmos. Early drawings and paintings from the West, dating back to before the

technology we have now include their own interpretations of what could be in our skies. A manuscript from 1425 called: ““Yu zhi tian yuan yu li xiang yi fu” [trans.: “Essay on the Astronomical & Meteorological Presages by Emperor Renzong of Ming Dynasty”] on paper with 878 vividly coloured illus. Ten vols. Tall agenda format (360 x 190 mm.), orig. wrappers preserved in modern wrappers, modern stitching. [China: 16th to 17th century].”(Hill, n.d.) features 878 illustrations of depictions on astronomical and meteorological observations from that current period in time. These observations were depicted in what we would now call very strange and inaccurate as they show phenomena in the sky as mystical happenings when we now understand, due to our scientific breakthroughs, that they, in fact, are not so unworldly and are a natural process in the cosmos environment.

The book depicts a range of celestial objects such as planets and their movements, constellations and solar phenomena such as sunspots, as well as clouds, rain, rainbows, parphelia (the display known as sundogs or mock suns) - to the fantastical, including meat falling from the sky, dragons and showers of coins. (Phaidon Editors)

Of course, we now understand significantly more about the cosmos and what happens in our skies with a much greater scientific perspective since these times. However, as discussed, we still have such uncertainty, leaving our minds to continue to wander the cosmos and try to make sense of it.

Chapter Three - My work

My work attempts to address awareness and beliefs relating to the universe, beyond the physical sense. It seeks to express a belief that the universe is all in some way connected through consciousness, that we are all part of the same consciousness and that consciousness runs through every single atom in the universe, therefore resonating with pantheistic beliefs. By showing this transcendental perspective, there is a chance to see that there is more to life than this materialistic and often superficial, repetitive societal lifestyle we encounter on a daily basis. It is becoming evident that our ever-advancing technology will not be enough to save this planet from the destruction we are subjecting it to. The answer surely lies deeper than the physical realm, and the human species must transcend to a much more spiritual perspective in order to see the truth, beauty and importance of our planet and the universe. A global transcendental shift is needed where we become less obsessed with consuming and capitalism and more concerned with finding fulfilment from within as it is not only the planet that is suffering from our materialistic ways, it is also ourselves and it is very difficult to believe that there is not more to this life than the way society expects us to live now. One of the biggest problem humans face currently is global warming. This problem has been caused by us, mainly through our obsession for consumption.

C40 Cities, a network of 94 of the world's biggest cities, released a report estimating how much consumption habits drive the climate crisis. The results were staggering: In those nearly 100 cities, where a combined 700 million live, the consumption of goods and services "including food, clothing, aviation, electronics, construction and vehicles" is responsible for 10 percent of global greenhouse gases. That's nearly double the emissions from every building in the entire world.(Atkin, 2019)

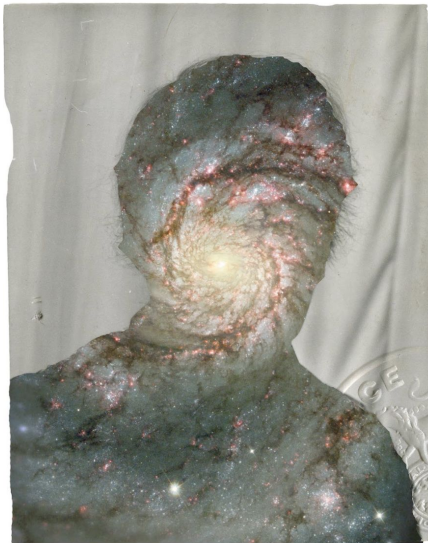
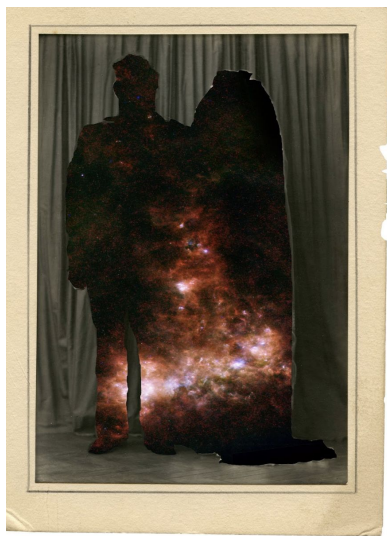
This way of living needs to change. It is hoped that artwork that delves into the topic of spirituality will resonate with people and make them think more critically about the oppressive, non-sustainable systems in our society.



My most current work looks closely at our relationship with life and death, of both humans and the universe. The project combines gathered archived photographic portraits of family members that have passed away along with landscapes of galaxies taken by NASA. My relatives have been removed from the images via a cut-out technique and the remaining image is then placed on top of the galaxy landscapes so that space replaces the removed figure/figures. The galaxy now represents both spirituality and cosmology and creates a link between them. Our bodies are quite literally made of stardust.

Everything we are and everything in the universe and on Earth originated from stardust, and it continually floats through us even today. It directly connects us to the universe, rebuilding our bodies over and over again over our lifetimes. The crucial elements for life on Earth, often called the building blocks of life, can be abbreviated as CHNOPS: carbon, hydrogen, nitrogen, oxygen, phosphorus and sulfur. For the first time, astronomers have catalogued the abundance of these elements in a huge sample of stars. (Howell, 2017)

This fact alone allows for a very spiritual metaphor, that we are part of something bigger than this human reality we are all living in. By having stars replace dead relatives, the connection is made that not only were they made of stars and existed as a crucial part of the universe when they were alive, but now they have passed away, their souls are above us, back amongst the stars. "We are not human beings having a spiritual experience, we are spiritual beings having a human experience." (Psychology Today, 2019).



Being very direct by using real images of galaxies shows the parallel and relationship between the cosmos and spirituality in a very literal way. The soul is believed to be immortal like an energy source. Once again, this is in a consistent correlation with pantheism. So, once we die, where does this source of energy go? Different religions

have their own beliefs, like the Christian heaven and hell, yet the concept of the third realm is where all souls that ever have been and ever will be, reside.

The Third Realm is the 'uppermost' of the Realms. It is the realm of absolute concept and spirit. Everything that ever was or will exist, exists in the Third Realm, and it is the absolute form of Infinity itself. Absolute Order and Absolute Chaos define the Third Realm. (Aeternalae Wiki, 2019)

Once again there are parallels among space and the universe with spirituality and psychic beliefs.

CONCLUSION

The clearest parallel when looking at the universe scientifically compared to spiritually is the harmonization of the vastness between them both. Art is where we are free to explore these ideas without judgement. Psychic abilities, souls, the third realm, are all very unconventional and unusual concepts, yet, it is essential for us to investigate these ideas now more than ever, otherwise, we will carry on down a path of self-destruction.

The Blake Prize is a perfect platform to allow room for this exploration and hopefully, as spirituality continues to grow in popularity, more opportunities like The Blake Prize will arise. It is interesting that as mainstream religions like Christianity become less popular, more people are identifying with the label “spiritual” instead of “religious”.

About a quarter of U.S. adults (27%) now say they think of themselves as spiritual but not religious, up 8 percentage points in five years, according to a Pew Research Center survey conducted between April 25 and June 4 of this year. (Lipka and Gecewicz, 2017)

It seems that we are living in a time with huge divides in humanity, but this rise in consciousness is promising a more equal and optimistic future. By being in touch with our spiritual side, perhaps we will experience progress in our societies and realise that the planet we live on needs care just as we do ourselves. We do not yet know the future of our planet, but exploring these concepts further and being open-minded to spiritual beliefs could lead us to a path of true fulfilment, likely resulting in a healthier planet. The disdainful, uncompassionate ways humankind have treated our planet for thousands of years is taking a heavy toll on our ecosystems. However, maybe the universe destined it to be this way in order for humankind to truly appreciate the world and each other afterwards. All the harm we have caused may be merely mistakes that are necessary in order for us to learn. As philosophers such as Nietzsche have discussed, pain in everyday life is crucial in order to understand happiness, so the same analogy could be applied to our past toxic behaviours. It is easy to have a pessimistic outlook when thinking about the future but by applying this logic it makes room for hope. Researching cosmology has also brought me to a more optimistic standpoint when taking into consideration that it is identifiable that science is also embracing and becoming more openminded to the idea of the universe being conscious and to spiritual concepts in general. Science has acknowledged the theory of higher dimensions and what that could mean in terms of cosmology and therefore becoming once again, more accepting of spiritual beliefs, in the sense that we are part of something bigger than the reality/dimension we exist in. Through these scientific breakthroughs, we are also ever advancing in terms of technology and how with a more spiritual or optimistic mindset we

can use this technology to help us save the planet. As previously mentioned, our rate of consumption is one of the leading causes of global warming. People have begun developing technology in ways that can realistically tackle this issue. The huge demand for meat has a huge impact on the environment. According to the animal's right activists Peta: "Animal agriculture causes an estimated 18 per cent of all greenhouse gases... That's roughly equivalent to emissions caused by the entire worldwide transport sector – every car, plane, train and boat on the planet combined." (Clark, 2015). Figures like this show the great importance of change needed and technology has come up with a few ways to tackle the issue by instead of farming animals for meat, taking meat cells and cloning them to make lab-grown meat. A postgraduate student Nick Shorten of Aberystwyth University says: "In the future, you would take a biopsy from a pig, isolate stem (master) cells, grow more cells, then put them into a bioreactor to massively expand them" (Briggs, 2019). Technological advancements like this, give the future a great opportunity to thrive but it is only with the belief that our lives have more purpose than to simply consume will we continue to evolve our technology in a way that is beneficial. For this reason alone it is crucial that we have a more enlightened approach to life. However, to have the resources to make a change, we need this awareness to be spread. Through art is where those enlightenments can be exposed to more people. Spreading awareness is the key to beginning to resolve these issues, so it is crucial we have art as a platform to do so.

When studying theories of the cosmos it can become easy to get lost and trapped in the thought that our existence is so meaningless due to the size of our planet when compared to the rest of the universe. However, through the spiritual concepts discussed in this inquiry, it is important to reflect on how just because the universe is so vast it does not mean we are meaningless. Size and scope do not determine whether something has a significant meaning to it or not. The fact we are here on this earth amongst the vastness of the cosmos in itself holds much significance. The probability of humankind existing is nearly impossible. The chemistry of our bodies is nearly impossible. So just because you and I and 7 billion other people just like us exist, yet we are still our own individuals, proposes so much depth. Humankind is not worthless because, in ratio, a person is so small compared to the rest of the cosmos, that person is part of the cosmos. In fact, humans are the cosmos. Humans are part of the universe so therefore humankind is the universe experiencing itself. Our oppressive societies make it easy to fall into the trap of feeling worthless but with a perspective where we realise that we are made out of the same components that the biggest stars are made out of, the size of the universe becomes meaningless and has no correlation to our worth. The correlation that should be made when considering the vastness of the universe is the parallel it has with spirituality. Cosmology and spirituality aren't directly linked through fact but they are most definitely intertwined with one another in many ways.

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