



An Exploration of the ‘Overview Effect’ as Enchantment

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Image: Self portrait by Tracy Caldwell Dyson in the Cupola window of the International Space Station, 11 Sept. 2010. Credit: NASA

Master's Degrees by Examination and Dissertation

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For here am I sitting in a tin can
Far above the world
Planet Earth is blue
And there's nothing I can do

- from 'Space Oddity', David Bowie (1969)

Abstract

The Overview Effect is the name given to the feelings of wonder and awe that many astronauts have experienced when looking back at planet Earth from Space, often with permanent effects. This resonates with the concept of an enchanted experience, defined as a unique moment of wonder and awe that can be life changing. This paper reviews the literature around the two concepts, then considers to what extent eight qualities of enchantment resonate with the Overview Effect. While original astronautical experiences appear to be moments of enchantment, conflicts arise when virtual reality Overview Effect projects are considered, virtual reality being a primary way in which Overview Effect proponents wish to share the message of the Overview Effect. The themes of 'Science and Wonder', 'Space and Place' and 'the Earth as Landscape' are subsequently explored and found to enrich an understanding of the Overview Effect in the context of enchantment. The Overview Effect emerges as a bridge between the areas of technology and wonder, demonstrating that virtual reality and the Overview Effect need not be incompatible. When theories of space and place are applied to the Overview Effect, it is shown to be a manifestation of dialectical human needs for both freedom and security, contributing to the literature around astronauts seeing the Earth as 'home'. Finally a consideration of the Overview Effect in the historical tradition of landscape-viewing suggests that more research is needed into how the cultural and social identity of an Earth-gazer might affect their experience.

Chapter One: Introduction

‘If somebody’d said before the flight, “Are you going to get carried away looking at the earth from the moon?”, I would have said, “No, no way.” But yet when I first looked back at the earth, standing on the moon, I cried.’ – astronaut Alan Shepherd¹

Enchantment is...an experience of the world as intrinsically meaningful, significant, and whole in a way that is fundamentally mysterious and includes oneself – Roy Willis & Patrick Curry²

In 1889, the German philosopher Gustav Fechner fantasised about what it would be like to view the Earth from a distance, and what we might learn if we were able to do so. Imagining himself looking down at the Earth, he saw it as so alive that ‘I asked myself how the opinions of men could ever have spun themselves away from life so far as to deem the Earth only a dry clod, and to seek for Angels above it or about it in the emptiness of the sky – only to find them not.’³ Less than a century later, the first human in Space (given a capital letter in this paper to distinguish it from the concept of ‘space’ in general), Yuri Gagarin, experienced this in reality: “Trembling with excitement, I watched a world so new and

¹ Don Nardo, *The Blue Marble: How a Photograph Revealed Earth's Fragile Beauty* (Minnesota: Compass Point Books, 2014), p. 46.

² Roy Willis and Patrick Curry, *Astrology, Science and Culture: Pulling Down the Moon*, Oxford, Berg, 2004, p. 112.

³ Fechner as quoted by William James, Hibbert Lecture Series (1901). Original work unavailable.

unknown to me, trying to see and remember everything,” he later wrote.⁴ The view was as mesmerising as Fechner had imagined it would be; so mesmerising, so all-consuming, in fact, that the experience might be described as one of *enchantment*. Patrick Curry writes, ‘Most simply, enchantment is an experience of wonder. Variations include awe, amazement, astonishment. It can vary in intensity from charm, through delight, to full-blown joy.’⁵ In Curry’s work *Enchantment: Wonder in Modern Life* he focuses in particular on the ‘full-blown joy’ variation, terming it ‘radical enchantment’.⁶ Such experiences, he argues, are ‘fundamental to being alive’.⁷

Many astronauts since Gagarin have witnessed the Earth from Space, both from low Earth orbit and from the Moon, and Space philosopher Frank White began to conduct interview-based research on the subject in the 1980’s.⁸ The interviews are transcribed in White’s 1987 book ‘The Overview Effect’ in which he documents and explores profound moments of awe experienced by a number of astronauts when looking back at Earth from Space.⁹ These experiences were in many cases life-changing and began a process of awakening to a new perspective, leading White to create the term ‘the Overview Effect’ [hereafter abbreviated to OE] to describe the phenomenon.

Attending a talk by Patrick Curry on the subject of his research into enchantment, I observed striking parallels between his description of an enchanted moment and the reported experiences of the OE and wondered whether an exploration of these parallels could provide new insight into the OE, and possibly into the concept of enchantment as well. Finding no previous scholarship explicitly using the term ‘enchantment’, I concluded that there was a notable academic space to be filled.

⁴ Yuri Gagarin, quoted in Frank White, *The Overview Effect: Space Exploration and Human Evolution* (Boston: Houghton Mifflin Company, 1987) [hereafter White, *The Overview Effect*], p. 196.

⁵ Patrick Curry, *Enchantment: Wonder in Modern Life* (Edinburgh, UK: Floris Books, 2019) [hereafter Curry, *Enchantment*], p. 7.

⁶ Curry, *Enchantment*, p. 7.

⁷ Curry, *Enchantment*, p. 7.

⁸ White, *The Overview Effect*

⁹ White, *The Overview Effect*

I began with the hypothesis that the transformational experiences that can occur to those who view Earth from Space are enchanted experiences, and my goal quickly became not only to confirm or disprove this hypothesis but to explore the implications of any discoveries. The OE is not merely a name given to astronauts' experiences, but a living cultural entity and one that many believe has the potential to transform society; White's theory of the transformational nature of the OE applies not just to the astronauts but perhaps also for humanity. The Overview Institute, formed by White and other experts in the area, in acknowledging 'the profound change in astronauts upon seeing the Earth from space' aims to research the OE and 'study the ways in which the world can be improved from this realization'. It hopes to inform the world of the 'reality, nature and potential of the OE'. There are a number of other organisations, such as Space for Humanity, which explicitly focus on the OE as key parts of their projects. As well as humanitarian organisations such as these, at the time of writing the planet is on the cusp of spaceflight becoming more common, and one of the draws for space tourists is experiencing the OE.¹⁰ It was clear to me that if there was indeed more to be learned about the OE, such as if it represents an expression of enchantment, then such findings could have tangible benefits for organisations.

There are obvious connections between the OE and enchantment, but which, using current definitions, exist simultaneously with potentially irreconcilable conflicts. This balance between connection and conflict suggested much potential for research: too many connections and perhaps not much would be learned, but too much conflict and the subject might not even be worthy of study. The two starting points for my exploration were the model of the OE proposed by Frank White and conceptualised in his book of the same name, and the theory of enchantment as argued by Patrick Curry, and I approached these models with a willingness to refine or even redefine their boundaries. My research method

¹⁰ Jordan Bimm, 'Rethinking the Overview Effect', *Quest: The History of Spaceflight (Quarterly)*, Vol. 21, No. 1 (2014), [hereafter Bimm, 'Rethinking the Overview Effect'], p. 39.

was text based, so no ethical approval was needed, but the contemporary nature of the research meant that primary sources included, for example, the websites of organisations, and previously conducted interviews.

My exploration of the OE and enchantment in tandem yielded three other key thematic areas of discovery: (i) science and wonder, (ii) space and place, and (iii) the Earth as landscape. These emergent themes were used as tools to develop an understanding of both the OE and enchantment. The topics of science and wonder, space and place, and landscape are areas of study in their own right, and a Space travel perspective on these may prove valuable for future researchers.

This study approached the OE through the lens of enchantment with the aim of understanding it better, while simultaneously hoping to enrich the definition of an enchanted experience and to explore any related themes.

Chapter Two: Literature Review

This section will review primary sources along with previous research into the OE and enchantment and in doing so provide an introduction to the two concepts independently, before they are brought together in the next section. If enchantment is taken to be simply ‘awe and wonder’, then any research into the OE, given that it describes the awe and wonder of astronauts, can be taken as research into enchantment and the OE, undermining the notion that there is no existing previous research explicitly on this subject, since research would have been conducted into enchantment simply by another name. It is therefore important to discuss the definition of enchantment in a way that distinguishes it from being synonymous with awe and wonder. Even in cases where the study of awe and wonder in the OE has unknowingly been using exactly the same concept of enchantment, they do not have a single word for it: the term enchantment may provide the missing link and prove useful in itself. The following three groups of secondary sources are therefore not absolute but have been imposed for the purpose of structure: (I) those which discuss the OE, such as Frank White, (II) those which explicitly discuss enchantment, such as Patrick Curry, and (III) those which discuss emergent themes – (i) science and wonder, (ii) space and place, and (iii) the Earth as landscape – which do not refer directly to either the OE or enchantment. These themes are used in this paper as gateways to understanding the dynamics at play between the OE and enchantment. They developed in the process of study, and the secondary sources which focus on these themes evolved as relevant only as I explored the OE and enchantment in depth. As these sources do not fall into the category of previous literature on either enchantment or the OE, rather forming part of my research itself, this review of the literature will therefore present the leading secondary sources which

specifically discuss enchantment or the OE. The primary sources all related to the OE and are of two kinds: (a) the original interviews from astronauts who have experienced Earth from Space, as reported by Frank White, and any further testimonies directly from those who have experienced the OE, and (b) material from organisations who promote the OE and OE experiences. These are incorporated in the discussion of the OE secondary sources.

(I) The Overview Effect

The idea that looking back at the Earth could be transformational precedes Frank White's research and his subsequent naming of it as the Overview Effect. In February 1966 Steward Brand had a solitary LSD trip in which the San Francisco skyline in his field of vision began to curve, and he really felt the Earth as spherical, leading him to an epiphany that if only the Earth could be photographed from space, others would feel the same and start to live in accordance with the Earth's uniqueness and fragility.¹¹ 'But how to broadcast it?' he recalls himself wondering in an account written in 1976;

It had to be broadcast, this fundamental point of leverage on the world's ills. I herded my trembling thoughts together as the winds blew and time passed. A photograph would do it—a color photograph from space of the earth. There it would be for all to see, the earth complete, tiny, adrift, and no one would ever perceive things the same way.¹²

The next day, Brand ordered the making of several hundred buttons and posters bearing the question, 'Why haven't we seen a photograph of the whole earth yet?' and began touring university campuses sharing his message.¹³ Two years later the Earthrise photo was taken by Alan Shepherd orbiting the moon, and is widely credited with

¹¹ Stewart Brand, <http://sb.longnow.org/SB_homepage/WholeEarth_buton.html> [accessed 28 Jan 2021]

¹² Stewart Brand, <http://sb.longnow.org/SB_homepage/WholeEarth_buton.html> [accessed 28 Jan 2021]

¹³ Stewart Brand, <http://sb.longnow.org/SB_homepage/WholeEarth_buton.html> [accessed 28 Jan 2021]

triggering the ecological movement of the 1970s.¹⁴ William James in a 1901 lecture on Gustav Fechner paraphrased Fechner's 19th Century vision of the Earth as follows –

Fechner's imagination, insisting on the differences as well as on the resemblances, thus tries to make our picture of the whole earth's life more concrete. He revels in the thought of its perfections. To carry her precious freight through the hours and seasons what form could be more excellent than hers—being as it is horse, wheels, and wagon all in one. Think of her beauty—a shining ball, sky-blue and sun-lit over one half, the other bathed in starry night, reflecting the heavens from all her waters, myriads of lights and shadows in the folds of her mountains and windings of her valleys, she would be a spectacle of rainbow glory, could one only see her from afar as we see parts of her from her own mountain-tops. Every quality of landscape that has a name would then be visible in her at once—all that is delicate or graceful, all that is quiet, or wild, or romantic, or desolate, or cheerful, or luxuriant, or fresh. That landscape is her face—a peopled landscape, too, for men's eyes would appear in it like diamonds among the dew-drops. Green would be the dominant color, but the blue atmosphere and the clouds would enfold her as a bride is shrouded in her veil—a veil the vapory transparent folds of which the earth, through her ministers the winds, never tires of laying and folding about herself anew.¹⁵

Frank White's research was groundbreaking, however, in that it was the first to study people who had *actually* witnessed the Earth from afar. In doing so it gave form to the pre-existing concept of Earth-viewing being transformational, as well as giving it a name. White has continued to interview astronauts and to develop his theory, as well as reviewing past interviews in the light of new information. In the third edition of the Overview Effect featuring additional interviews conducted over the preceding decades, White described it as:

A cognitive shift in awareness reported by some astronauts and cosmonauts during spaceflight, often while viewing the Earth from orbit, in transit

¹⁴ Editorial, 'Earthrise at 50', *Nature*, Vol. 564, p. 301.

¹⁵ William James, Hibbert Lecture Series, 1901

<<http://www.philosopher.eu/others-writings/william-james-on-fechner/>> ; There is no available English translation of Fechner's work, nor does James provide the specific source.

between Earth and the moon, or from the lunar surface. It refers to the experience of seeing first-hand the reality that the Earth is in space, a tiny, fragile ball of life, 'hanging in the void', shielded and nourished by a paper-thin atmosphere. The experience often transforms astronauts' perspective on the planet and humanity's place in the universe. Some common aspects of it are a feeling of awe for the planet, a profound understanding of the interconnection of all life, and a renewed sense of responsibility for taking care of the environment.¹⁶

Okushi and Dudley-Flores have asked why the photos of Earth and many other cosmic images do not appear to have had the promised effects:

Why haven't the peoples of the Earth been subsumed by this overwhelming experience...,held hands and sang Kum Bah Yah, and turned their attention to turning the tide against global warming?¹⁷

They explore reasons why this is very much not the case, and consider resolutions, hypothesising that virtual reality Overview Effect experiences have the power to increase 'planetary awareness'.¹⁸

Annahita Nezami has researched the potential of the OE to be shared through virtual reality with the aim of improving mental health, which is the purpose of VR-Overview-Effect, which states on its website 'Dr Nezami's research focuses on understanding the effect and if transforming emotions such as awe, gratitude, reverence, humility and wonder can be experienced by people on earth as well as astronauts.' Her work is an example of the real world potential of research into the subject. Nezami conducted interviews with seven American astronauts and identified three key narratives: (i) deeply impactful perceptions of Earth, (ii) profound and unexpected emotional impact, and (iii) a

¹⁶ White, *The Overview Effect*, p.10.

¹⁷ Jun Okushi and Marilyn Dudley-Flores, 'Space and Perceptions of Space in Spacecraft: An Astrosociological Perspective' (paper presented at the American Institute of Aeronautics and Astronautics Conference & Exposition, Long Beach, California, 18-20 September 2007) [hereafter Okushi and Dudley-Flores, 'Space and Perceptions of Space'], p. 4.

¹⁸ Okushi and Dudley-Flores, 'Space and Perceptions of Space', p. 1.

space odyssey.¹⁹ Other organisations include Space for Humanity, which exists to expand access to the transformational experience of space travel, proposing on its website that ‘the Overview Perspective plays a vital role in helping us cultivate a future of sustainable peace and prosperity for all of humanity’. In another example, SpaceBuzz, a Dutch non-profit start-up, is according to its website ‘an XR-education program with the mission to inspire 100 million children globally with the perspective of astronauts: looking down to Earth from space.’ SpaceBuzz hopes to inspire children to become ‘ambassadors of planet Earth’, by ‘making them aware of the beauty and vulnerability of our planet’ using virtual reality.

In line with these non-profit organisations with humanitarian goals, the research area is highly positive, with many researchers passionate about the subject and open about their bias. There thus appears an imbalance between studies which celebrate the OE and those which take a more critical eye. Part of the problem could be that the very expression ‘Overview Effect’ means the transcendental experiences of astronauts – it is impossible to use the term without acknowledging its existence; researching the OE requires acceptance of the fact that the OE is a real phenomenon. Starting from a wholly neutral standpoint would require not using the term to start with, and in order to come to a negative conclusion would mean interviewing astronauts and finding that they were in no way positively affected by their experiences looking back at Earth. Jordan Bimm has approached the area from this standpoint and has conducted an archival review arguing against what he refers to as ‘White’s claim that the overview effect is a timeless, pre-existing natural phenomenon that affects all people in a similar way.’²⁰ In this review Bimm suggests that ‘since 1987, the conversation about the overview effect has been lopsided in favor of White’s claims.’²¹ He uses three methods to argue against the validity of the OE: (i) considers pre-existing terms

¹⁹ Annahita Nezami, ‘The Overview Effect and Counselling Psychology: Astronaut Experiences of Earth Gazing’ (unpublished doctoral thesis, City, University of London, 2017) [hereafter Nezami, ‘Overview Effect and Counselling Psychology’], p. 79.

²⁰ Bimm, ‘Rethinking the Overview Effect’, p. 39.

²¹ Bimm, ‘Rethinking the Overview Effect’, p. 40.

that White uses to contextualise and support his research and criticises what Bimm identifies as their political origins, (ii) considers ‘the reliability of astronaut self-reporting’ by studying ‘the history of American space psychology’ and (iii) reviews studies showing ‘feelings of separation, anxiety, and depression that were being reported by military pilots after viewing the Earth from very high altitudes’.²² However, given that Bimm’s paper did not review White’s actual findings, let alone actually conduct any research, his review does not provide a substantial threat to the findings from the original interviews with astronauts. New interviews calling White’s findings into question would be required. Despite this, the existence of Bimm’s paper alone is a reminder of the danger of forgetting that no research is infallible, and that there is more than one way of considering data.

(II) Enchantment

For Patrick Curry, the definitive enchanted experience is “an experience of the world as intrinsically meaningful, significant, and whole in a way that is fundamentally mysterious and includes oneself”.²³ Disenchantment meanwhile is seen as a collective condition, one that puts these individual moments of enchantment at risk, hence the importance of understanding the historical legacy of the academic notion of collective disenchantment. The sociologist Max Weber (1864–1920) appropriated the term in 1918, describing “die Entzauberung der Welt”, or the “Disenchantment of the World”. For Weber, the scientific revolution and Protestant Reformation of the 16th and 17th centuries were the culmination of a thousand-year process in which magical human participation in the natural world decreased in relevance, ultimately severing mankind’s psychic connection with nature. Weber wrote that “One need no longer have recourse to magical means in order to master

²² Bimm, ‘Rethinking the Overview Effect’, p. 39.

²³ Roy Willis and Patrick Curry, *Astrology, Science and Culture: Pulling Down the Moon*, Oxford, Berg, 2004, p. 112.

the spirits[...]technical means and calculations perform the service. This above all is what intellectualisation means.”²⁴ Crucially, the problem for Weber was not modern science and technology itself but the tendency among followers of science to regard it as the answer to all things, rendering redundant all other answers such as magic and participation in nature. The danger of ‘increasing intellectualisation and rationalisation’ is the corresponding belief that ‘one can, in principle, master all things by calculation’.²⁵ It is this belief that introduces disenchantment to the world, not the scientific developments themselves.

Michael Saler has conducted a historiographical review of the terms modernity and enchantment in academic discourse, and has argued that the discourse around each and in particular when considered together, is clouded by a failure to define each clearly. He argues that “Enchantment[...]is an ambiguous term.”²⁶ Saler identifies two approaches to the discourse around modernity and enchantment: the binary and the dialectical approach: ‘Whereas the binary approach depicts contemporary turns to the irrational and spiritual as atavistic and marginal reactions to the rational and secular tenets of modernity, the dialectical approach posits modernity itself as inherently irrational, a mythic construct no less enchanted than the myths it sought to overcome.’²⁷ So, enchantment still very much exists in the modern era but can be understood in two different ways: as a reaction to technological developments and the increased understanding of science as a sufficient answer to every question, *or* as the very obsession with science itself. In the latter case science provides answers in the same way as religion did in the past.

²⁴ Max Weber, *Max Weber: Essays in Sociology*, H. H. Garth and C. Mills Wright (ed.), London, Kegan Paul, Trench, Trubner & Co., 1947, p. 139, cited in Nicholas Campion, ‘Enchantment and the Awe of the Heavens’, in *The Inspiration of Astronomical Phenomena VI*, ed. by Enrico Maria Corsini, ASP Conference Series, Vol. 441. (San Francisco: Astronomical Society of the Pacific, 2011), [hereafter Campion, ‘Enchantment and the Awe of the Heavens’], p. 416.

²⁵ Max Weber, *Max Weber: Essays in Sociology*, p. 139, cited in Campion, ‘Enchantment and the Awe of the Heavens’, p. 416.

²⁶ Michael Saler, ‘Modernity and Enchantment: A Historiographic Review’, *The American Historical Review*, Vol. 111, Issue 3 (June 2006) [hereafter Saler, ‘Modernity and Enchantment’], p. 699.

²⁷ Michael Saler, ‘Modernity and Enchantment’, p. 673.

Chapter Three: Discussion

This section will attempt to answer the question of whether the OE can meaningfully be described as enchantment. Having reviewed the two concepts individually, this section brings them together. Although, perhaps fittingly, (given the required resistance to a scientific mindset) Curry's model does not present an inexhaustible list of specific qualities required to constitute enchantment, a number of conditions can be gleaned from a reading of his primary work on the subject, *Enchantment: Wonder in Modern Life*.²⁸ I have identified these as: 1) an experience of wonder 2) a relationship 3) momentary 4) positive 5) life-changing 6) impossible to replicate 7) cannot be used 8) embodied. This discussion considers the extent to which the OE fits these conditions, and explores the connections and conflicts which respectively support and challenge my hypothesis that the OE is an enchanted experience.

(1) An experience of wonder

Astronaut Scott Carpenter has said 'Everywhere I looked the window and the periscope were constantly filled with beauty...I found it difficult to tear my eyes away...Everything is so new and so awe-inspiring.'²⁹ Curry writes that the 'heart of true enchantment is sheer existential wonder'.³⁰ It seems clear that the heart of the OE is also 'sheer existential wonder.' While their differences should not be ignored, the very essence of

²⁸ Curry, *Enchantment*, p.1.

²⁹ as recorded in White, *The Overview Effect*, p. 30.

³⁰ Curry, *Enchantment*, p. 13.'

each concept is the same, which alone makes an enchanted perspective on the OE a valuable one.

Both Frank White and Patrick Curry acknowledge degrees of strength of wonder in their research. It is acknowledged that the OE of orbiting in the ISS is not comparable to seeing the Earth as so small you can block it out with your thumb. Yet the former is still given much value and much rich material exists based on interviews with those who have experienced life on the ISS and no further. Curry meanwhile acknowledges that enchantment is on a scale from charm to full-blown joy. The OE as experienced by the original astronauts seeing Earthrise from lunar orbit may be the most extreme form of Curry's enchantment – *radical enchantment* – but there is a wide spectrum of wonderful experiences available within the realm of Earth-viewing.

(2) A relationship

Patrick Curry has written that enchantment is not, as might be imagined, an orgasmic union where the sense of self is lost; it requires an awareness of the other; 'perhaps more than anything else', then, 'enchantment is a matter of relationship.'³¹ In the case of the OE, this 'other' is, of course, Planet Earth. Russell L. Schweickhart (Apollo 9) has said that the Earth as seen from space:

is so small and so fragile and such a precious little spot in that universe that you can block it out with your thumb, and you realize that that small spot, that little blue and white thing, is everything that means anything to you -- all of history and music and poetry and art and death and birth and love, tears, joy, games, all of it on that little spot out there that you can cover with your thumb. And you realise from that perspective that you've changed, that there's something new there, that that relationship is no longer what it was.³²

³¹ Curry, *Enchantment*, p. 17.

³² as recorded in White, *The Overview Effect*, p. 11.

In any manifestation of the OE or claimed manifestation, be it imagined, photographic, real or virtual, the moment is between the observer and the Earth itself; it is always about a relationship.

(3) Momentary

In Patrick Curry's model of enchantment, an experience of enchantment is a singular moment rather than a permanent state: 'it consists of a unique moment and a unique place'.³³ Thus the moment is identifiable and hence transient, though subjectively during the moment it can feel timeless.³⁴ This reflects astronautical experience. Firstly, the astronaut is aware, however long they are spending in space, that their time is limited. Furthermore, the experiences do not blur into one, and astronauts describe particularly memorable moments, such as not being able to sleep and taking some tea to watch the Earth turn.³⁵ The transience of an enchanted experience makes it bittersweet: 'shot through with a poignant intimation of its end'.³⁶ Astronauts report that no two experiences of Earth gazing are the same; the Earth is always changing. It must also be noted that they are not watching the Earth all the time – often they have to make time to go and watch the Earth; Tim Peake used the opportunity of brushing his teeth to Earth-gaze:

I would just float to the window and brush my teeth and look at the earth passing by. And it doesn't matter if you're passing over somewhere you've seen before. Every time you look out, there's something new and something different to see – different lighting conditions, different weather. Earth is just such a beautiful planet to look at from space, so it was never boring to look down.³⁷

³³ Curry, *Enchantment*, p. 9.

³⁴ Curry, *Enchantment*, p. 60.

³⁵ NASA Overview Effect video on YouTube [accessed 30 November, 2020]

³⁶ Curry, *Enchantment*, p. 15.

³⁷ Desert Island Discs, BBC Radio 4, 29th January 2021.

There is a sense here of ‘you cannot step into the same river twice’, a loose translation of Heraclitus’ ‘river fragments’.³⁸ Every moment is unique, because things are constantly changing.

(4) Positive

Curry writes that enchantment is essentially pure and unsullied: ‘If there is a worm at its heart, we put it there.’³⁹ The OE reflects this, as any life changing effects seem to be wholly positive. Ihle *et al.* have conducted research into the positive benefits of spaceflight and found that not only was it overall a highly positive experience with long lasting effects, but of all the benefits, a new perception of the home planet was the most powerful: ‘The results of our study suggest that space travel is a meaningful experience whose effects endure for some time postflight. Every respondent had a positive reaction to being in space, but the reactions differed in their intensity. The experiences that were reported most frequently, and with the highest degree of change, were those encapsulated in the “perceptions of Earth” sub-scale. The item “I gained a stronger appreciation of the Earth’s beauty” had the highest mean score (and one of the lowest SD) of all the individual items, with the average rating indicating a “great degree” of change.’⁴⁰

There is thus a strong ecological element to the positive changes described in reports of the OE, suggesting room for research in the area of how humans bring meaning to their environment. This will be explored further in Chapter 5: Space and Place.

³⁸ Leonardo Taran, ‘Heraclitus: The River Fragments’, *The Society for Ancient Greek Philosophy Newsletter*, Vol. 253., 1989, p. 33.

³⁹ Curry, *Enchantment*, p. 13.

⁴⁰ Eva C. Ihle *et al.*, ‘Positive Psychological Outcomes of Spaceflight: An Empirical Study’, *Aviation, Space, and Environmental Medicine*, Vol. 77, No. 2 (2006), p. 99.

(5) Life-changing

Patrick Curry describes enchanted experiences as those which make life worth living, and are often life-changing.⁴¹ Many reports of the OE parallel this. Although an astronaut feeling their life has changed since having been in space could be related to other aspects of their trip, Ihle *et al.* have shown that viewing the Earth is often the most memorable part – see (4). Nezami's interviews revealed multiple direct statements of the life-changing quality of the OE, such as by Ronald Garan, NASA astronaut :

The experience [of seeing Earth] is incredible, you have all this motion and colours and light that really gives you the sense that we live on a, a living, breathing organism and the experience is undeniable yet surreal, it remains very much part of who I am today.⁴²

For some individuals, the transformational experience of seeing the Earth in the context of the universe, goes beyond just being 'part' of who they are but becomes integral to their purpose in life. Edgar Mitchell was one such individual. He experienced what he felt was a cosmic consciousness, and in 1973 founded the Institute of Noetic Sciences, the mission of which is 'to reveal the interconnected nature of reality through scientific exploration and personal discovery.' Mitchell, it states on its website, believed that 'by applying the scientific rigor used in his explorations of outer space, we could better understand the mysteries of inner space—the space in which he felt an undeniable sense of interconnection and oneness.' Just as Curry acknowledges that not all enchanted experiences are life-changing, it is recognised that not every Earth-gazer is transformed in the same way.

(6) Impossible to replicate

⁴¹ Curry, *Enchantment*, p. 8.

⁴² Nezami, 'Overview Effect and Counselling Psychology', p. 104.

According to Curry, ‘if enchantment is apparently being ordered, manipulated or created at will, it has been disappeared,’ and ‘there is no method for achieving enchantment, nor re-enchantment’.⁴³ Thus enchantment cannot be summoned by attempting to replicate the conditions. Yet a number of organisations presuppose that looking back at Earth will automatically result in the Overview Effect: Space for Humanity have opened applications for an ‘all-expenses-paid journey to experience the OE; a cognitive shift in worldview that occurs to astronauts when they experience the Earth from Space.’ Their website states that ‘as a part of the program, Citizen Astronauts will participate in leadership and communication training, using their Overview Perspective to collaboratively contribute to a more harmonious world.’ This assumption of replication does not resonate with Curry’s notion of an enchanted experience, and while organisations may have been emboldened in their claims by the sheer number of individuals undergoing transformational effects in space, openness to experience may have been a key factor in this: Edgar Mitchell said of his first moment viewing Earth: “It was a very powerful experience for some of us because we were open to whatever it meant, without prejudging what it was going to be.”⁴⁴ But as Bimm notes, ‘the overview effect has been such a successful idea that, real or not, it has become a self-fulfilling prophecy. People now go to space expecting to experience it.’⁴⁵ Will the experience of space from above be changed if it is expected, if one has already seen photos of it, if one has been told what it might be like? Having said this, there is no limit on the number of people who can, for example, be enchanted by a piece of music or work of art. The question is whether the possibility of enchantment is threatened if they are listening to it specifically to be enchanted.

(7) Cannot be used

⁴³ Curry, *Enchantment*, p. 15.

⁴⁴ Frank White, *The Overview Effect*, p. 216.

⁴⁵ Bimm, ‘Rethinking the Overview Effect’, p.39.

Any mention of the *utility* of the OE heralds a strong point of contention between this phenomenon and that of enchantment. Curry says that enchantment is ‘literally price-less and use-less, both spiritually and materially, so those who value it nonetheless are indeed heretics’. However, his entire book can be regarded as an argument for the value of enchantment which rather undermines this point; the back cover reads ‘Patrick Curry argues that attempts to undermine or dismiss enchantment as a delusion are not only misguided but dangerous, potentially leading to a disengagement with our world that could have disastrous consequences for our future on this planet.’⁴⁶ Curry’s book describes enchantment and discusses its benefits; it is to be expected that individual experiences will be seen to be beneficial. ‘Some people think it can be used for progressive purposes, but enchantment cannot be used at all; it really is unbiddable. So the most and best one can do is to create, whether individually or collectively, inviting conditions for enchantment in whatever field or walk of life, and then let *it* do its thing, perform its wonders if and as it will. You cannot legislate for the effects.’⁴⁷

Frank White and the Overview Institute on their website propose three ways to ensure that more people experience the OE: 1) send them to space 2) adopt a communication-oriented approach 3) replicate the experience, in various forms, and diffuse it around the planet. This clearly contrasts with Curry’s words regarding its utility, but at the same time the aim of many Overview Effect proponents is to protect the Earth, which is precisely the goal of Curry, most explicitly in *Tolkien: Myth and Modernity*. This dynamic will be explored further in Chapter Four: Science and Wonder.

(8) Embodied

⁴⁶ Curry, *Enchantment*, back cover.

⁴⁷ Curry, *Enchantment*, p. 123.

One description given by Curry is that enchantment is ‘always an embodied encounter in an actual set of circumstances’⁴⁸ Yet for an astronaut to experience the wonder of space, they must be encased in a life-giving space suit, or be behind a window. It is not *literally* a bodily experience. That does not mean, however, that it cannot be experienced in a physical way. Edgar Mitchell said ‘I was overwhelmed with the sensation of physically and mentally extending out into the cosmos. The restraints and boundaries of flesh and bone fell away. I wondered if Stu and Alan [companion astronauts] were experiencing it as well ... Somehow I never felt the urge to ask.’⁴⁹ Thus, in space, the body is perceived as restricting. The focus is on perception. This brings hope to the idea of VR OE experiences.

The notion of ‘virtual reality’ is anathema to Curry’s focus on enchantment being a relationship with things ‘as they are’ and the natural world. By Curry’s definition, no virtual reality experience could be one of enchantment. Although organisations such as Space for Humanity acknowledge that a trip to Outer Space is never going to be surpassed by an experience with a VR headset on, the premise is that a replicated experience generates sufficient feeling and experience to be valuable. But if enchantment is at the core of the astronauts’ experiences, it is questionable whether something seemingly the antithesis of enchantment – a prescribed, preplanned simulated reality technological experience – can replicate those experiences in any meaningful way.

Assuming that by definition, a virtual reality experience is not ‘an embodied encounter in an actual set of circumstances’, and rather its opposite, a disembodied (purely mental) encounter in an artificially generated set of circumstances, a conundrum arises which can be framed logically as three mutually incompatible premises: they cannot all be the case.

⁴⁸ Curry, *Enchantment*, p. 17.

⁴⁹ Edgar Mitchell, quoted in Cassandra Vieten, ‘In Memoriam: Edgar Mitchell, ScD, PhD’, *Network Review*, 120 (2016), p.14.

- (1) Any experience that can be meaningfully described as the OE must involve a form of enchantment.
- (2) The OE can be experienced to some degree through virtual reality.
- (3) Enchantment is ‘always an embodied encounter in an actual set of circumstances’.

This can be elaborated in the following way:

(1) If both (2) and (3) are the case, then (1) is false and enchantment is not a core part of the OE, calling into question the value of this very project.

(2) If (1) and (3) are both true then (2) cannot be, threatening the notion of recreated OE experiences and suggesting that the term ‘Overview Effect’ cannot be meaningfully used in this context of virtual reality. This would have grave implications for organisations, perhaps none more so than VR-Overview-Effect, its very existence being oxymoronic. The hopes of Frank White and other members of the Overview Institute to spread the message to large numbers of people will be more challenging.

(3) If (1) and (2) are both the case then enchantment is *not* necessarily ‘an embodied encounter in an actual set of circumstances’. An virtual reality experience does not preclude the presence of enchantment and hence Patrick Curry’s model of enchantment must be requalified.

What are the implications of this? I have already argued that the original experiences of astronauts which led to the creation of the term ‘Overview Effect’, are at their very heart experiences of enchantment, and it follows from this that (1) ‘any experience that can be meaningfully described as the OE must involve a form of enchantment.’ If my argument

carries weight and the hypothesis on which this study is founded is correct, then either Frank White's model of the OE, or Patrick Curry's model of enchantment, is threatened and needs to be refined. There is only one current model of the OE, developed by White in the process of his research on the subject and this incorporates the notion of it being possible without direct experience. There is no previous literature arguing that the OE is a meaningless concept when it is applied to virtual reality. Its proponents recognise the challenge of this recreation, but are optimistic about it and regard it as necessary for the success of their mission. Patrick Curry's blueprint for enchantment meanwhile, which proposes that it is *always* an embodied encounter, forms part of a matrix of previous discussion on the subject, and is by no means the only definition. Assessing the boundaries of Curry's model of enchantment is thus a more obvious choice. This is the task of the next chapter, an in depth analysis of the possible conflict between science and wonder.

Summary of discussion

In this section I have queried the ways in which the Overview Effect fits eight qualities of enchantment. This involved considering both the original experiences of astronauts and possible re-creations of the effect through virtual reality. I found that five conditions of enchantment – an experience of wonder, a relationship, transient, positive, and life-changing – clearly resonated with the Overview Effect, confirming my hypothesis that this was an area worth studying. Three conditions were more problematic: impossible to replicate, cannot be used, and embodied. These three conditions call into question whether the Overview Effect can be meaningfully used by organisations wishing to recapture the experience to use for a number of positive purposes, often using virtual reality, thereby invoking three qualities which are very much challenging to Curry's approach to enchantment.

Chapters Four, Five and Six will consider three themes which relate in some way to both the Overview Effect and enchantment in the hope of gaining further insight into the dynamic relationship between these two concepts. As well enriching the discussion over these eight qualities, for example confirming connections or resolving potential issues, this exploration may take the debate in unexpected directions, suggest new avenues for research and prove useful for organisations.

Chapter Four: Science and Wonder

The Overview Effect is both a manifestation of wonder and a result of perhaps the most advanced technology and scientific success in existence. This chapter will examine a crucial component of Patrick Curry's research and one that relates back to Weber's initial theory: that the advent of technology is correlated with the spread of disenchantment. The chapter's focus is on the historical association of science, technology and thus modernity as enemies of enchantment. An analysis of the two together has significant implications for Curry's theory, and may also pave the way to a solution of the potential threat posed by virtual reality to an meaningful OE experience, if in fact technology can contribute to enchanted experiences.

Nicholas Campion has argued that technology is not only mutually compatible with wonder but can facilitate it. He describes being 'enchanted by [his] first view of the rings of Saturn and the phases of Venus, sights visible only through a telescope', calling into question Weber's original theory of disenchantment, and acknowledging the potential of astronomy and enchantment not only to coexist but to nourish one another.⁵⁰ Inspired by his own experience and reading descriptions of astronomers' experiences, he writes, 'the astronomer is indeed fitted, as Ficino would have it, to sing the song of the cosmos, and the song is not silenced by technology.'⁵¹ Curry himself does concede that the discipline of astronomy 'can still be inspired by wonder and defend it' but suggests that it is 'institutionally averse to acknowledging its importance'.⁵² This dichotomy is reflected in a speech given by former NASA administrator Mike Griffin to those in the space industry in 2007 about the

⁵⁰ Campion, 'Enchantment and the Awe of the Heavens', p. 422.

⁵¹ Campion, 'Enchantment and the Awe of the Heavens', p. 426.

⁵² Curry, *Enchantment*, p. 109.

‘Acceptable Reasons’ versus the ‘Real Reasons’ to go to Space. He argues that the acceptable reasons of scientific discovery and economic benefit comprise a derived rationale for space travel, and those in the Space industry, being analytically-minded and ‘very left-brain oriented’ ‘tend not to pay appropriate respect to the deeper parts of human nature, which are intuitive and qualitative’. He encourages people to acknowledge the ‘Real Reasons’ for wanting to be a part of the Space travel industry: ‘curiosity and the power of the awe and wonder of the cosmos and of seeing something no one has ever seen before’.⁵³

NASA’s attitude may already have changed: in 2020, NASA released a mini documentary series on its YouTube channel based on the OE, in which astronauts discussed the sense of wonder they had felt in Space. By doing so, NASA is explicitly acknowledging the role of awe. The OE, then, provides an opportunity for space centres to legitimise and openly acknowledge the role of wonder, which could be the start of an answer to the problem identified by Curry.

However, Curry’s perspective and that of those in the Space industry may not be so readily reconciled. While Mike Griffin describes wonder as being behind the drive for exploration, Curry has also written that ‘enchantment...sets a limit to the modern drive for mastery[...]That limit cannot be overcome without our own destruction.’⁵⁴ Griffin would probably agree with the first premise, but with enchantment defined as ‘the wonder of the cosmos’ might reach the opposite conclusion – that there is no limit to the drive for mastery of the cosmos, due to humankind’s innate yearning to see what no one has ever seen before. Furthermore, Space travel and the colonisation of other planets is sometimes seen as a solution to humanity’s inevitable self-destruction on earth; on 7th January, 2021, Elon Musk became the richest man on the planet, and that same day re-shared a previous message to his Twitter followers, originally from 2018, that read: ‘About half my money is intended to help

⁵³ Reported in Loretta Hidalgo Whitesides, *The New Right Stuff: Using Space to Bring Out the Best in You*, (Independently Published, 2018), p. 292.

⁵⁴ Curry, *Enchantment*, p. 121.

problems on Earth & half to help establish a self-sustaining city on Mars to ensure continuation of life (of all species) in case Earth gets hit by a meteor like the dinosaurs or WW3 happens & we destroy ourselves'.⁵⁵ And Frank White discusses the innate human yearning for mastery as something so powerful that it must have an outlet:

War and space exploration are alternative uses of the assertive, exploratory energies that are so characteristic of human beings. They may also be mutually exclusive because if one occurs on a massive scale, the other probably will not. A nuclear war will either lead to the extinction of the human species or set civilization back so far that it will take millions of years to achieve spaceflight again. On the other hand, a major commitment to achieving humanity's purpose through a human space program could result in the re-channeling of the aggressive human energies necessary to avoid nuclear confrontation.⁵⁶

Rather than enchantment setting a limit to the modern drive for mastery, it may be able to encourage this drive for mastery to be channelled into the exploration of the cosmos rather than the destruction of our own species.

An earlier attempt to reconcile science and wonder can be found in Gustav Fechner. Fechner not only wrote of the power of the natural world, but of the necessity of enchantment in science: he framed the problem by creating two terms: the concept of 'Nachtansicht' or the 'night view' to express the purely scientific perspective on the world, in contrast with 'Tagesansicht', or the 'day view', a perspective on things that permitted wonder. In speaking of the importance of Tagesansicht, he advocated the non-reductionism that Curry has pinpointed as essential to enchantment: 'any attempt to understand and appreciate enchantment[...]requires resisting the urge to explain it away or reduce it to something else, whether 'up' to God or 'down to neurophysiology'.⁵⁷ This sits uneasily with

⁵⁵ Elon Musk, <<https://twitter.com/elonmusk/status/1050812486226599936?s=20>> [accessed 23 January 2021]

⁵⁶ White, *The Overview Effect*, p. 126.

⁵⁷ Curry, *Enchantment*, p. 7.

the perspective that there is nothing which science cannot explain. Fechner writes that ‘the whole world of science infected by the night view believes that no qualitative definition is attributable to nature outside of ourselves’ purely as a result of scientific discoveries about how we comprehend nature.⁵⁸ As Heidelberger describes it when analysing Fechner’s work, ‘we cannot conclude from the victories of the procedure of abstraction, as the night view does conclude, that an abstract description and the quality of a thing are identical, thereby “draining” the world of quality’.⁵⁹ Fechner writes ‘Perceptible phenomena that extend beyond us are not a mere illusion; they are objectively distributed throughout the world.’⁶⁰ Michael Heidelberger writes that Fechner’s day view:

guarantees that an uncompromising natural scientist, an adherent of scientific principles and methods, need not feel condemned to supporting the “barrenness” and “dreariness” of the world as it is presented by mechanistic mechanism and other varieties of the night view. The world of “nocturnal philosophy” is “dismal, mute, and desolate,” emptied of “all purpose, all beauty, and all meaning. Psychoanalytically we would say that it just demands too much denial from us. The day view, in contrast, truly ‘re-enchants’ the world.”⁶¹

Okushi and Dudley-Flores do not appear to feel ‘condemned’ in this way, seeing no contradiction in the idea of technology engendering numinosity :

It isn’t very real to most people that Earth is a planet in space[...]Alas, we do not yet have the capacity to cheaply offer rides into space for millions of people to experience this reality. But, we do have the technology and knowledge to make the experience as numinously real as possible and to distribute it across a diversity of cultures in ways that it will be understood.⁶²

⁵⁸ Gustav Fechner, 1879, p. 235., cited in Michael Heidelberger, *Nature From Within*, trans. by Cynthia Kloor (Pittsburgh: University of Pittsburgh Press, 2004), [hereafter Heidelberger, *Nature from Within*], p. 135.

⁵⁹ Heidelberger, *Nature From Within*, p. 135.

⁶⁰ Gustav Fechner, 1879, p. 235., cited in Heidelberger, *Nature From Within*, p. 135.

⁶¹ Heidelberger, *Nature From Within*, p. 135.

⁶² Okushi and Dudley-Flores, ‘Space and Perceptions of Space’, p. 5.

Technology can be thus employed to distribute an experience through many cultures and in appropriate ways. Perhaps as technology becomes more commonplace it is not seen as 'new' and modern and therefore separate from the world.

The OE can therefore be seen as a point of reconciliation between science/technology and wonder. Its existence alone suggests that they need not be mutually incompatible. Given that the 'original' OE involving astronauts necessarily requires technology, this in itself demonstrates that there is nothing preventing technology from being an agent of wonder.

Chapter Five: Space and Place

A key part of the OE experience appears to be a new understanding of the Earth as a location with special meaning. The terms ‘space’ and ‘place’ may be useful tools of understanding this transformation. The terms, when coupled together, have been defined in various ways. Curry writes that ‘space is disenchanted place’, adding that ‘we cannot live there – it is place, but on life-support’.⁶³ In his mind, place is meaningful, space is not. To be enchanting, somewhere must be a place, not merely a space. But Yi-Fu Tuan’s distinction is different: ‘Place is security, space is freedom: we are attached to the one and long for the other.’⁶⁴ In representing security and freedom respectively, place and space are both integral to being human: ‘human beings require both space and place. Human lives are a dialectical movement between shelter and venture, attachment and freedom.’⁶⁵ The OE itself is only possible through Space travel, through following the human longing for freedom and exploration to its ultimate endpoint: off the Earth itself, and people go to Space because it has meaning for them: it carries, if not enchantment, a special kind of promise. It therefore seems fitting to apply Tuan’s more positive definition to the terms ‘space’ and ‘place’.

Part of the OE message is communicating the knowledge that we are on the Earth in an emotional rather than intellectual way, ensuring that individuals do not feel detached when viewing images of the Earth. Carl Sagan in his famous Pale Blue Dot speech said:

⁶³ Curry, *Enchantment*, p. 85.

⁶⁴ Yi-Fu Tuan, *Space and Place* (Minneapolis, MN: University of Minnesota Press, 2014 [1977]) [hereafter Tuan, *Space and Place*], p. 3.

⁶⁵ hereafter Tuan, *Space and Place*, p. 54.

‘That’s here. That’s home. That’s us.’⁶⁶ Perhaps this connects to a human need to remind oneself of one’s own existence, a feeling Seamus Heaney portrays in ‘A Herbal’ :

As between clear blue and cloud,
Between haystack and sunset sky,
Between oak tree and slated roof,
I had my existence. I was there.
Me in place and the place in me.⁶⁷

Yaden argues that ‘the wholeness of the Earth makes it a symbol of almost all that is meaningful in human life; it has tremendous, perhaps absolute, conceptual vastness. Seeing it from a distance, when one is disconnected physically yet connected emotionally, conjures thoughts of home, of the entirety of one’s world, and of mankind as a whole. We suggest that the tendency is, quite literally, to think in global terms, and that the ability to behold all at once the entire domain in which these human themes reside contributes to the overwhelming sense of awe.’⁶⁸

Bill Anders, who took the Earthrise photo as one of the Apollo 8 crew, the first to orbit the moon and therefore to see the whole Earth in one field of vision, said during an interview for a 1999 NOVA film special:

When I looked up and saw the Earth coming up on this very stark, beat up moon horizon, an Earth that was the only color that we could see, a very fragile looking Earth, a very delicate looking Earth, I was immediately almost overcome with the thought, here we came all this way to the moon, and yet the most significant thing we’re seeing is our own home planet, the Earth.⁶⁹

Anders’ words – describing a new understanding of the Earth as home, as a consequence of the irrepressible human drive to explore – bring to mind those of T.S. Eliot:

⁶⁶ Carl Sagan, 1999, <<https://www.planetary.org/worlds/pale-blue-dot>>

⁶⁷ Seamus Heaney, ‘A Herbal’, *Human Chain*, (London, UK: Faber & Faber, 2010)

⁶⁸ David B. Yaden *et al.*, ‘The Overview Effect: Awe and Self-Transcendent Experience in Space Flight’, *Psychology of Consciousness: Theory, Research, and Practice*, Vol. 3, No. 1 (2016), p. 4.

⁶⁹ ‘To the Moon’, aired July 13, 1999

<https://www.pbs.org/wgbh/nova/transcripts/2610tothemoon.html>

We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.⁷⁰

Tuan writes that ‘in open space one can become intensely aware of place; and in the solitude of a sheltered place the vastness of space beyond acquires a haunting presence.’⁷¹ Anders as an astronaut had sensed the vastness of space beyond, of Outer Space beyond, from the sheltered place that is Earth, and had now felt the intense awareness of place that Tuan suggests can be triggered by being in open space. We can yearn for the ‘limitless horizon’ of space, and bring those yearnings to life but ultimately there is no place like home, no place like Earth. The OE is also about the *realisation* that the Earth is our home, when previously it had seemed too large to fit such a description: Cosmonaut Oleg Makarov described his experience of the OE as: “Suddenly, you get a feeling you’ve never had before... That you’re an inhabitant... of the Earth.”⁷² Only by leaving ‘home’ can we comprehend its significance.

This idea of the OE generating feelings of home is a central part of the narrative among its proponents. Since many astronauts have a more ecological perspective since experiencing the planetary awareness typical of the OE, OE proponents hope that by sharing the OE, more people will gain this perspective, and have an increased desire to care for the earth. Jeffrey Hoffman, NASA astronaut, said when interviewed by Nezami that ‘this familiarity definitely increases your appreciation of planet Earth as our home’. Nezami argues that ‘familiarity was an important aspect of [Jeffrey’s] experience and helped cultivate a more meaningful connection with his home planet. It seems that he developed a stronger sense of place and home at the global level, which is indicative of a global form of

⁷⁰ T.S. Eliot, ‘Little Gidding’, *Four Quartets* (US: Harcourt, 1941)

⁷¹ Tuan, *Space and Place*, p. 54.

⁷² Web page <<https://overviewinstitute.org/astronaut-quotes/>> [accessed 13 January 2021]

belonging.⁷³ Enter *enchantment*: Curry, in ‘Defending Middle Earth’, in which he examines J.R.R. Tolkien’s work as an appeal to preserving the power of wonder in the natural world:

There is a strong relationship with the issue of place here, because without such re-enchantment -- that is, unless our response to the communal, natural and sacred places as home partakes of wonder -- then the outlook for our places, and all that hangs on them, is very dark.⁷⁴

Curry therefore identifies that a recognition of place as home can be a powerful balm. Tuan has observed that ‘most people, when they think of the earth, think not of the entire planet but a part of it -- the part they live in. Wherever they happen to be, provided they have been settled there for some time, they consider home.’⁷⁵ Nezami’s research demonstrates the conscious shift in astronaut Ronald Garan’s perspective on ‘home’ when he returns from space, affecting his view of the natural world:

Ronald describes how he felt when he landed on Earth in 2001 after being away for six months: “I looked out the window and I saw a rock, a flower and a blade of grass, and I remembered thinking to myself, I’m home...And so to me, at the moment, my home was not just Houston where I live with my family, my home was Earth” (Ronald 7, 363). It is clear from the extract above that Ronald shifts his focus and is now immersed and attuned to the qualities and moments associated with discrete features of nature.⁷⁶

Awareness of distance from the familiar but with a powerful emotion encompassing it brings to mind the notion of *nostalgia*. Louise Emanuel has observed that nostalgia is often considered a negative emotion, ‘perhaps because of its obsession with the ‘other’ that we no longer have’, and asks whether nostalgia can instead be seen as a ‘call to action – to find what is lost, to reconnect and become whole’.⁷⁷ For Emanuel, nostalgia is the temporal

⁷³ Nezami, ‘Overview Effect and Counselling Psychology’, p. 93.

⁷⁴ Patrick Curry, *Defending Middle-Earth: Tolkien, Myth and Modernity* (Edinburgh, UK: Floris Books, 1997), p. 161.

⁷⁵ Yi-Fu Tuan, *Escapism* (Baltimore, MD: The John Hopkins University Press, 1998), p. 7.

⁷⁶ Nezami, ‘Overview Effect and Counselling Psychology’, p. 96.

⁷⁷ Louise Emanuel, ‘Harmony, Nostalgia and a Sense of Place’, *The Harmony Debates*, Nicholas Campion (ed.) (Ceredigion, UK: Sophia Centre Press, 2020) [hereafter Emanuel, ‘Harmony, Nostalgia and a Sense of Place’], p. 316.

counterpart to the physical dimension into which place falls, both being ‘manifestations of the same phenomena – the human impulse to search for wholeness’.⁷⁸ Kitson and McHugh, meanwhile, incorporate the tangible and locational into their conception of nostalgia and suggest that it ‘takes place as enchantment with distance, a sensate encounter that, paradoxically, engenders practices of nearness between people and things.’⁷⁹

In the context of enchantment, an enchanted moment requires both a time and a place, adding an element of nostalgia due to its temporal limitation; according to Curry, because enchantment must by necessity be a temporary state of being it is consequently ‘often shot through with a poignant intimation of its end’.⁸⁰ He identifies this as being embodied in the haiku by the poet Basho: Even in Kyoto, I long for Kyoto, When the cuckoo sings.⁸¹ The Portuguese word ‘saudade’ expresses Basho’s sentiment, and there is no adequate English translation. From this discussion it can be taken that the nostalgic element inherent in enchantment must be embraced, as it is unavoidable. Astronauts are constantly aware of how much time they have left in Space, and therefore the entire mission of an astronaut, if experienced as special, could be said to be ‘shot through with a poignant intimation of its end’.⁸²

The abstract potential of ‘Space’, crystallised in its ultimate form in the idea of ‘Outer Space’ may be as necessary a part of human nature as that of ‘place’, offering not the specific, identifiable relationship that constitutes an enchanted moment, but magical in its own way.

Space travel may represent the desire to transform the unknown into the known, unknown space into known place. The OE in this context represents the realisation that the

⁷⁸ Emanuel, ‘Harmony, Nostalgia and a Sense of Place’, p. 318.

⁷⁹ Jennifer Kitson, and Kevin McHugh, ‘Historic Enchantments – Materializing Nostalgia’, *Cultural Geographies*, Vol. 22, No. 3 (2015) [hereafter Kitson and McHugh, ‘Historic Enchantments – Materializing Nostalgia’], p. 489.

⁸⁰ Curry, *Enchantment*, p. 15.

⁸¹ Basho, 17th Century, Author’s mix of translations.

⁸² Curry, *Enchantment*, p. 15.

Earth itself has not yet been known until this moment; only by seeing it from a distance can it be understood.

Could it be that in our desire for space and quest for freedom which leads us to Space, we rediscover that Earth itself is a place, and therefore worthy of respect and love. In travelling to Outer Space, the ultimate expression of conceptual space, we then look back at Earth which is decidedly a place – indeed it is the ultimate ‘place’ – it is home.

Chapter Six: The Earth as Landscape

The OE describes the response of a human being looking at a ‘view’ and consideration of the OE as a continuation of the historical tradition of humanity’s conception of landscape may prove valuable. Accordingly, this section will focus on the notion of Planet Earth as itself a ‘landscape’, first using the historical origin of the word and then exploring alternatives, in line with Barbara Bender, who writes that ‘the term ‘landscape’ was coined in an emergent capitalist world to evoke a particular set of elite experiences – a particular ‘way of seeing’, but suggests instead that it can be ‘something subjective, something experienced, something that alters through time and space, that is creative by, and creative of, historical conditions and geographical emplacement.’⁸³ Julia Tcharfas has considered Space travel as following on from the tradition of the eighteenth century European traveller:

‘Our modern forms of tourism date back to at least the eighteenth century, when travel for the sake of experience emerged as a rite of passage for young male aristocrats, educated elites, as well as artists and writers. Alongside the requisite ‘grand tour’ of continental European cities, the more adventurous travellers seeking self-discovery found themselves in increasingly exotic, sublime and disorienting locations. Most important in this pursuit was an idea of the privileged view or vantage point.’⁸⁴

Tcharfas then argues through a detailed focus on Tito, the first Space tourist, that the Earth as seen through the eyes of a tourist is a different view, and a different experience.

⁸³ Barbara Bender, *Landscape: Politics and Perspectives*, ed. by Barbara Bender (Oxford, UK, and Providence, RI: Berg Publishers, 1995 [1993]) [hereafter Bender, *Landscape*], back cover

⁸⁴ Julia Tcharfas, ‘Through the lens of a space tourist’, *Science Museum Group Journal*, Issue 4 (Autumn, 2015) [No page numbers, see webpage <<http://journal.sciencemuseum.ac.uk/browse/issue-04/space-tourist/>>] [hereafter Tcharfas, ‘Through the lens of a space tourist’]

Although, according to Tcharfas, ‘Astronauts and cosmonauts have retained this simultaneously intellectual and emotional regard for the sublime view’, she has identified differences in Tito’s experience of looking back at earth as compared to the astronauts: chiefly that he took pride in particularly identifying evidence of human development on the surface of the earth.⁸⁵ The OE meanwhile focuses on the lack of visible boundaries, the message being that any borders are superficial and meaningless when considered from afar; NASA astronaut Eugene A. Cernan when interviewed by Frank White said: ‘You don’t see the barriers of color and religion and politics that divide this world. You wonder, if you could get everyone in the world up there, wouldn’t they have a different feeling -- a new perspective?’⁸⁶ Tcharfas’ findings however suggests that the status of the viewer may have an effect on their perception of Space, and thus even if many astronauts have experienced the OE, space tourists might not experience the view of Earth in the same way.

Tcharfas’ observations are also relevant in the context of how much of the OE discussion focuses on reported experience. She writes, ‘by the early nineteenth century it was common to see the world through the representation of these travellers, such as the figures in Caspar David Friedrich’s paintings, viewing the dramatic landscape from over their shoulder.’⁸⁷ In the OE series recently produced by NASA, in which astronauts in four minute episodes discuss their experiences, the picture flips from footage of astronauts giving the interview in space gear on a chair, to photographs of them gazing out at the Earth through the window of the International Space Station. The astronauts are aware of their privilege and of the importance of sharing their experience with those unable to encounter it directly. This could change if viewing the Earth from afar became commonplace.

Barbara Bender has discussed the history of the ‘privileged landscape’, observing a 1992 British advertising campaign for First Class rail travel, one poster from which features a

⁸⁵ Tcharfas, ‘Through the lens of a space tourist’ [no p. no.s]

⁸⁶ reported in White, *The Overview Effect*, p. 206.

⁸⁷ Tcharfas, ‘Through the lens of a space tourist’ [no p. no.s]

picture of an English landscape with the claim, ‘The only Constable you’ll see at a hundred miles an hour.’⁸⁸ Bender writes: ‘the assumption was clear: those who matter know who Constable is, those who might be confused by a seemingly obscure reference to the forces of law and order do not matter and are not being targeted.’⁸⁹

This has implications for the OE, as while attention has focused on how different manifestations of the Earth view – in a printed image, in VR, from low Earth orbit, or from the moon or lunar orbit – will affect the emotional response of the subject, little attention has been paid to who that subject might be. Nezami writes that ‘the astronauts faced remarkable views; their eyes had to adjust to the versatility of the landscape and depth of colours as well as the unfamiliar and dynamic landscape before them.’⁹⁰ This use of language alongside the word landscape – ‘views’, ‘eyes’, and ‘before them’ is an example of an academic discussion of the OE which echoes the Western tradition of viewer and view. Even in translation the discussion, and thus the concept of the Overview Effect itself, might seem alien to someone not familiar with this tradition.

Bender observes that ‘in the contemporary western world we ‘perceive’ landscapes, we are the point from which the ‘seeing’ occurs. It is thus an ego-centred landscape, a perspectival landscape, a landscape of views and vistas. In other times and places the visual may not be the most significant aspect, and the conception of the land may not be ego-centred.’⁹¹ The very word ‘Overview’ evokes the detachment inherent in what Bender calls the ‘European ‘viewpoint’’, the ‘primacy’ of which she rejects, insisting that although ‘the word was originally coined in the emergent capitalist world of western Europe’, the ‘experience of landscape is too important and too interesting to be confined to a particular

⁸⁸ Barbara Bender, ‘Stonehenge – Contested Landscapes (Medieval to Present-Day)’, in *Landscape: Politics and Perspectives*, ed. by Barbara Bender (Oxford, UK, and Providence, RI: Berg Publishers, 1995 [1993]), [hereafter Bender, ‘Stonehenge’], p. 247.

⁸⁹ Bender, ‘Stonehenge’, p. 246.

⁹⁰ Nezami, ‘Overview Effect and Counselling Psychology’, p. 80.

⁹¹ Bender, *Landscape*, p. 1.

time, place and class'.⁹² The aim of the Overview Institute and other organisations is to share the Overview Effect as widely as possible. But as Bimm argues in 'Rethinking the Overview Effect', believing in the 'natural' ability of the overview to transform society 'eclipses and discredits other ways of seeing, experiencing, and thinking about the planet.'⁹³ Perhaps there is not just a language barrier and access barrier to be considered, but a perceptual barrier concerned with how acquainted individuals are with the concept of a 'view', of being a viewer. Are they able to approach a vista without apprehension, as if this were something normal to do? How will someone engage with the Overview Effect if they are not from a culture in which it is normal to say: "look at the view"?

Bender, in her consideration of the word 'landscape', expresses the power of words:

Words define experience, experience takes its meaning from time and place. Words empower action (or inaction), they 'naturalise' social relations. But they are also the product of social relations. We need to know how their meanings have been constructed and used. We can then begin to democratise them.⁹⁴

Bender's statement highlights not just the challenge of linguistic democratisation but the motivation for doing it: words define experience, and can empower action. Words have power. Consequently, word choice matters, and when this idea is applied to the OE, the question emerges whether Frank White's choice of words affects cultural understanding of the concept itself. There are implications of this, for example the choice of words if the OE is translated, or whether the English terms are retained, which could create alienation.

It is not within the remit of this paper to conduct a detailed linguistic analysis, however the above discussion regarding the history of landscape in the context of a 'view'

⁹² Bender, *Landscape*, p. 1.

⁹³ Bimm, 'Rethinking the Overview Effect', p. 43.

⁹⁴ Bender, *Landscape*, p. 16.

might provide a starting point for research. I will now turn to the word ‘effect’ and consider an alternative way of approaching the concept of ‘landscape’.

Tim Robinson has suggested that ‘we personally, cumulatively, communally, create and recreate landscapes -- a landscape being not just the terrain but also the human perspectives on it, the land plus its overburden of meanings.’⁹⁵ When the Earth is seen as the landscape in this way, incorporating the meaning embedded in the view in the process of engagement, the word ‘effect’, unlike ‘overview’, denotes an animated interaction between the seer and the landscape, at least in one direction from the landscape to viewer, with the potential to be multidirectional if it transforms the way in which the seer engages with the landscape of Earth in future. And it seems as if it does: Voski has explored the connection between environmentalism and human space exploration using semi-structured interviews, and found that ‘the overview effect contains an unanticipated and distinguishable ecological significance that has the ability to markedly influence post-spaceflight environmental attitudes and behaviours’.⁹⁶ Thus a vision of the Earth can transform the seer’s relation to the landscape.

Space tourist Richard Garriott has said, ‘unquestionably, there is something that I had never heard of until after my flight called the ‘overview effect,’ and his experience of it was profound and immersive and describes a feeling of realisation. (Notably, this interview was given to CNBC Make It – there seems little research into space tourists, as stated, but perhaps this is because there are so few of them.) His experience is as follows, quoted from the printed interview with CNBC, ‘What It’s Like In Space – From the Space Tourist Who Spent \$30 Million To Go’,

“Suddenly, I had this very strong physical response,” he says. “The best way to describe it is like in a horror movie — where you will see an actor in

⁹⁵ Robinson, ‘Listening to the Landscape’, p. 30.

⁹⁶ Anaïs Voski, ‘The ecological significance of the overview effect: Environmental attitudes and behaviours in astronauts’, *Journal of Environmental Psychology*, 70 (2020) <<https://doi.org/10.1016/j.jenvp.2020.101454>>, p. 1.

the hallway and they will dolly the camera backwards but zoom in the lens. So the actor stays the same size but it appears the hallway collapses around him.

“That’s what it felt like looking out the window at the Earth,” he says.

“My sense of the reality of the scale of the Earth collapsed and suddenly I now understand the Earth in a way that I never could have before. And that has stayed with me and will forever, I am sure.”⁹⁷

This epiphanic realisation and new understanding of the Earth deserves its own term: a *geophany*. I have adopted this term after reading the work of Tim Robinson, who created it to represent the transformational potential of the Earth after wandering the hills of Ireland and experiencing quiet but powerful moments in nature in which the Earth seemed almost to have agency in revealing itself: ‘I present to you a new word: ‘Geophany’. A theophany is the showing forth, the manifestation, of God, or of a god; geophany therefore must be the showing forth of the Earth.’⁹⁸ Gustav Fechner’s experience of walking in nature is quite clearly a geophany:

a light as of transfiguration lay on all things. It was only a little bit of the Earth; it was only one moment in her existence; and it seemed to me not only so beautiful and ideal but so true and clear a fact, that she is an angel, an angel so rich and fresh and flower-like, and yet going her round in the skies so firmly and so at one with herself, turning her whole living face to Heaven, and carrying me along with her into that Heaven, that I asked myself how the opinions of men could ever have spun themselves away from life so far as to deem the Earth only a dry clod, and to seek for Angels above it or about it in the emptiness of the sky – only to find them not.⁹⁹

⁹⁷ Web page

<<https://www.cnbc.com/2018/10/19/what-its-like-in-space-from-a-tourist-who-spent-30-million-to-go>> [accessed 31 January 2021]

⁹⁸ Tim Robinson, ‘Listening to the Landscape’, *The Irish Review*, No. 14 (1993 [hereafter Robinson, ‘Listening to the Landscape’], p. 32.

⁹⁹ Gustav Fechner quoted by William James cited in Curry, *Enchantment*, pp. 86–87.

Fechner's passionate dismissal of the Earth as 'only a dry clod' perfectly mirrors Robinson's thoughts: 'I am suggesting that what is hidden from us is not something rare and occult, or even augustly sacred, but, too often, the Earth we stand on.'¹⁰⁰

The OE could thus be considered as the ultimate 'geophany' – the first time the Earth has revealed itself in totality. The value of the term geophany applied as such is the element of agency it bestows upon Planet Earth, itself, or as Fechner would say, herself, participating in allowing itself/herself to be seen. This is also reflected in the fact that all the resources needed to allow humans to enter Space came from the Earth itself. Agency in this sense follows Kitson and McHugh, who recommend an approach which 'takes (re)presentations and all forms of matter seriously, seeking to dissolve distinctions between material and immaterial, human and nonhuman, subject and object. Whether an object, an idea, or a meteorological event, all materialities have agency, the capacity to affect.'¹⁰¹ Earth, as exemplified in the Overview Effect, has the *capacity to affect* and thus agency. The term is also useful because it represents both the element of epiphany inherent in the OE, and the aspect of relationship with the Earth, where it is seen as living. William James' passionate agreement with Fechner is: 'Yes! The Earth is our great common guardian angel, who watches over all our interests combined'.¹⁰² This reflects a number of OE experiences, in which the Earth is experienced as living and *nurturing*. NASA astronaut Nicole Stott, interviewed by Nezami, has said, "And then you start thinking even more about...others have used this word about Earth being a spaceship itself... [Laughs] So yeah it makes me feel like we're all kind of astronauts flying in space and have to look after and protect the mother ship".¹⁰³ Nezami identifies Stott's perspective shift as being 'from local to global', as 'her focus on the world zooms out'.¹⁰⁴

¹⁰⁰ Robinson, 'Listening to the Landscape', p. 32.

¹⁰¹ Kitson and McHugh, 'Historic Enchantments – Materializing Nostalgia', p. 489.

¹⁰² William James cited in Curry, *Enchantment*, p. 87.

¹⁰³ Nezami, 'Overview Effect and Counselling Psychology', p. 109.

¹⁰⁴ Nezami, 'Overview Effect and Counselling Psychology', p. 109.

Chapter Seven: Suggestions

In the discussion in Chapter Three, three key qualities of enchantment caused problems when applied to the Overview Effect. These were: that it cannot be replicated, cannot be used, and must be embodied. However, studies of science and wonder, space and place, and the Earth as landscape, have revealed a more nuanced perspective. Here I will question to what extent these three qualities remain a problem for the Overview Effect, including a VR Overview Effect experience, once seen through the lens of these themes. In doing so I will consider what message enchantment might have for advocates of the Overview Effect, and make some suggestions accordingly. In the process I will incorporate three concepts relating to enchantment that have emerged in the previous three chapters: Tagesansicht, re-enchantment, and geophany.

Curry writes that ‘any attempt to understand and appreciate enchantment requires respecting its integrity’.¹⁰⁵ Thus, it loses meaning when subject to the kind of analysis that claims to understand it completely. This is related to the problem of replication, because claiming that an experience can be replicated undermines its uniqueness.

Tagesansicht, the day view, is applicable here. It promotes the recognition that it is not necessarily productive and may in some cases be counterproductive to attempt to explain awe through scientific means. An understanding of the neurophysiology of awe can be useful but reducing or explaining it purely through neurophysiology is the very manifestation of disenchantment. The theory of Tagesansicht cautions against disenchantment and the danger of “scientism” which demands that everything be understood in a scientific way, indeed can only be understood in a scientific way. .

¹⁰⁵ Curry, *Enchantment*, p. 7.

Proponents of the OE want to share their discovery and the message of the OE as widely as possible. According to the doctrine of enchantment, an enchanted experience cannot be reduced to neurophysiology or another scientific explanation, without something being lost in the process. The proponents may run the risk of losing a key quality of the OE – its indefinability – in an attempt to share its message as widely as possible. In remembering that enchanted experiences are a core part of being human, and that the OE is an enchanted experience, those sharing its message can have confidence in its power. Rather than being subsumed by the night view, and the dangers of the call of scientism, those sharing the OE message may remember the importance of Tagesansicht, of not losing sight of the importance of some things as indefinable. Accordingly, proponents of the OE must have confidence that there is innate value in enchantment and that while an analysis of the brain chemical process that may occur during the OE may be of interest, the OE has value whether or not ‘scientific’ processes can be shown to be at work, as it represents an unbound expression of something integral to being human: the ability to experience wonder.

Thus, if the Overview Effect is not subject to rigid definition and categorisation, projects such as VR-Overview-Effect seem less like attempts at replication and more like actions to create opportunity for enchantment, without predicting exactly how that might manifest. In avoiding the assumption that the Overview Effect will always be experienced in the same way, organisations can open the door to enchantment. To OE proponents, then: replication is bound to fail but honouring this brings rich rewards. This paper argues that the concept of enchantment is integral to the OE, which means that the mystery and wonder that was such a part of the original astronautical experiences must not be lost in the process of sharing the message and the experience more widely. The mystery must be honoured as a formative part of the process. This means not prescribing what an effect might be, not assuming that people will have the same experiences, but being open to what might emerge. Frank White does acknowledge that ‘in certain instances, people who are made aware of the

overview go through transformations just as powerful as those of the astronauts and in unpredictable ways'¹⁰⁶ But recognition of the unpredictable nature of enchantment and the fact that it cannot be legislated for, also requires acceptance of the fact that in other cases people may go to Space but not undergo a powerful transformation. So, a Space tourist may be disappointed at their lack of visceral reaction to the trip of a lifetime, but someone may have an enchanted experience looking at the holiday photograph taken by the tourist. Once this unpredictability and mystery is embraced, there follows an expansion of the boundaries of what can be described as enchantment.

Curry's requirement that enchantment must be 'embodied' begins to weaken when it is considered in depth. What does 'embodied' mean? This is a question for another discussion, but presumably Curry means something associated with the real, tangible, and sensate – an experience with the body rather than just the mind. Yet, without claiming to reduce enchantment purely to a neurophysiological explanation, a study of neurophysiology does suggest that stating that enchantment *must* be embodied gives it a very narrow definition. Subjective experience is what is most important. Watts *et al.* at the Centre for Psychedelic Research at Imperial College London have found that 'psychedelics can have the same overview effect as a space journey'. 'Under psilocybin', they write,

a brain network called the default mode network (DMN), which is a fundamental component of the neural basis of the ego, is relaxed and deactivated – which enables an increase in brain communication, and temporarily creates a more unified and interconnected brain. This experience is termed 'ego dissolution' because the sense of self as 'separate' can dissolve. This, in turn, could explain the kind of self-other and self-nature 'overlap' that psilocybin can provoke.¹⁰⁷

¹⁰⁶ White, *The Overview Effect*, p. 70.

¹⁰⁷ Watts *et al.*,

<<https://aeon.co/essays/psychedelics-can-have-the-same-overview-effect-as-a-space-journey>>

This may seem like falling prey to the trap of Tagesansicht, but when fully considered, Watts *et al.* are actually attempting to use psychedelics to generate the subjective experience that is such a key part of the Overview Effect and enchantment. Just as an enchanted experience would be no less enchanted if the brain were found to have nothing going on, when studied in a lab, the brain regions being triggered themselves as the starting point do not preclude an experience being enchanted: as Curry says, there are no requirements. Those who argue that psychedelics have the potential to transform perspectives do not say that those perspective shifts are ‘only’ the brain changes. This should cause reassurance for anyone concerned about the possibility of artificially generated OE experiences. The important thing is that it feels real – the proof is in the pudding – if people who have had VR experiences report feelings which suggest they have had an enchanted experience, then they have; there is no more to it. Tagesansicht can also provide a useful rule of thumb here – if it feels real, then it is real.

What of Curry’s requirement that enchantment cannot be used, in the context of the OE? He may himself provide the answer. In *Defending Middle-Earth* he proposes enchantment as an ecological solution, indeed the only solution:

Only re-enchantment can make it possible to realize that this world, its places and its inhabitants are existentially *already* wondrous -- and as such, worthy of the kind of respect and love that doesn’t permit their wanton, callous and stupid destruction. You won’t fight for what you don’t love.’¹⁰⁸

The use of the OE, when considered in its broader sense and including virtual reality experiences, can be seen as *an attempt to re-enchant the world*. Frank White and other OE enthusiasts communicate in ways that resonate with this idea. If the OE proponents are aware that their project is one of re-enchantment, it may help them avoid the pitfalls.

¹⁰⁸ Patrick Curry, *Defending Middle-Earth: Tolkien, Myth and Modernity* (Edinburgh, UK: Floris Books, 1997), p. 161.

Curry's project to re-enchant the world with a particular focus on nature, requires using enchantment. It is to be expected that this will involve invoking individual examples of enchantment rather than just discussing it in a general way. Curry acknowledges the inherent problem with 're-enchantment as a programme'; by definition it 'cannot straightforwardly be adopted and pursued *as* a deliberate and planned programme, because that simply readmits humanist utilitarianism by the back door'.¹⁰⁹ Accordingly, he argues, 're-enchantment can only encourage, amplify and build on instances where it is already happening spontaneously, as it were'.¹¹⁰ If the project of the Overview Institute and others is viewed as encouragement and amplification of a pre-existing phenomenon, this opens the door to these organisations continuing their work without undermining their own purpose. However, a systematic programme to, for example, expose the whole of humanity to the effect, would, however positive its goals, lose touch with its enchanted centre. When seen in this light it is clear that if the project of OE proponents is to re-enchant the world, such a project cannot be achieved without self-awareness as to its essence – of being aware of the re-enchantment goal.

¹⁰⁹ Curry, *Defending Middle-Earth*, p.162.

¹¹⁰ Curry, *Defending Middle-Earth*, p.162.

Chapter Eight: Conclusion

This project was conducted in the hope of expanding an understanding of the Overview Effect, informing the definition of enchantment, and exploring thematic links between the two. The lack of previous scholarship explicitly comparing the two subjects in the face of the real-world utility of any discoveries gave birth to my conviction that this was a field rich with unrealised potential.

After briefly introducing the concepts and discussing my rationale for study, I discussed previous research into the OE and enchantment in a literature review. Chapter Three then identified the ways in which the OE is an expression of enchantment according to Patrick Curry's model, and discussed the possible conflicts that arise when it is considered as such. The intersection between the OE and enchantment was then investigated further through three themes. This exploration of science and wonder, space and place and the Earth as landscape both enriched the five key connections between the Overview Effect and Enchantment that were found in the first discussion, and revealed potential solutions to the three conflicts that emerged.

Chapter Four considered the intersection between science and wonder, deeply relevant to the OE, a global wonder facilitated by technology. The OE can thus fact be seen as representing the triumph of *Tagesansicht*, demonstrating the importance of things that cannot be reduced to neurophysiology or explained only by a God – even when science is followed to its ultimate conclusion, meaning and subjective experience emerges. As Curry writes, 'as the kind of being we are – ensouled and embodied, emplaced and ecological, enchantment is our birthright, and will continue to be for as long as we exist.'¹¹¹

¹¹¹ Curry, *Enchantment*, p.121.

An exploration of space and place in Chapter Five revealed that the development of ecological awareness during the OE represents a new understanding of the Earth as place, as home, in which literally seeing the Earth as whole leads to an figurative ‘seeing’ of the Earth as whole. While Curry’s perspective on space is that it is disenchanted place, bleached of meaning, this paper applied Yi-Fu Tuan’s perspective that, when ‘space’ is understood as symbolising freedom and discovery and ‘place’ as symbolising security and home, both place and space are essential. The OE, travelling off the planet only to recognise it as home, is thus seen as the manifestation of two diametrically opposed but equally essential human needs: security and freedom. Emanuel writes that ‘our search through time and space is a call to reconnect, to find the wholeness that we have lost through our separation from the natural world.’¹¹² Seemingly, in our search not only through time and space but through time and Space, we have found the path to that wholeness and to restoring that separation. There is no place, it appears, like Earth.

A discussion of the Earth as landscape in Chapter Six, more tangential, but explored in the hope of new discovery, exposed an aspect of the Overview Effect, that of the concept of a landscape ‘overview’ itself, that is under-researched and deserves attention, as it presents a potential barrier to sharing the message of the Overview Effect with all cultures and people as its proponents hope to do. The literature and research into the OE has focused much on the process and the particular location of the observer, but not on their cultural and social identity. A consideration of the Earth as existing in the tradition of seeking sublime views seems essential for increasing understanding of the OE, and there is room for research into how westernised the OE may be given its focus on the viewer and the view. Literal accessibility, for example to VR devices, or to space itself – is acknowledged as important, but cultural accessibility to the *concept* is just as crucial. The study of landscape followed Barbara Bender in acknowledging the roots of the term ‘landscape’, but recognising other

¹¹² Emanuel, ‘Harmony Nostalgia and a Sense of Place’, p.318.

ways of engaging with the landscape. The term ‘geophany’ was presented as an epiphanic and enchanted realisation relating to a deep truth about the Earth that was not previously recognised.

In Chapter Seven I re-considered the problems that had arisen in Chapter Three regarding the OE as enchantment, and made some suggestions to Overview Effect advocates. The power of witnessing the whole earth cannot be underestimated, but neither can it be predicted: OE advocates must ensure that they recognise the latter point if they are to retain the crucial element of enchantment, and avoid the temptation to try to replicate it. The project of those wishing to enhance the planetary perspective of earth-dwellers is identified as one of ecological re-enchantment, the very same concept that Curry identifies as central to the work of J.R.R. Tolkien. This resonance reveals that to say enchantment cannot be used at all, as Curry does, would be oversimplifying the matter almost to the point of falsehood. Re-enchantment is in fact proposed by both Curry and OE proponents as the only solution to increased planetary and therefore environmental awareness.

Two terms, *Tagesansicht* and *geophany*, were shown to be particularly useful in understanding the OE as enchantment. I suggest that, if adopted or even just kept in mind, these terms could inform future study into the OE. Both, having been explicitly created and scarcely used, are open to new layers of meaning. *Geophany*, coined by Tim Robinson in 1993, refers to an immersive enchanted moment, an experience of landscape relating to the Earth as having agency, and is thus a way of conceptualising the OE. *Tagesansicht*, the day view, coined by Gustav Fechner in 1879, offers a way of preserving enchantment in the field of science and thus space travel.

The work of Gustav Fechner has been shown to be relevant in almost all the areas and themes touched on in this dissertation. One potential future opportunity for research which cannot go unmentioned is that of cosmic consciousness, the realisation that Edgar Mitchell had in Space which led him to found IONS. Cassandra Vieten, former

President/CEO of IONS writes of Mitchell's cosmic philosophy following his travels in Space:

The experience led him to a startling hypothesis: Perhaps reality is more complex, subtle, and inexorably mysterious than conventional science had led him to believe. Perhaps a deeper understanding of consciousness could lead to a new and expanded view of reality in which objective and subjective, outer and inner, are understood as complementary aspects of the miracle and mystery of being...Edgar was troubled by the prevalence of a dualistic worldview in Western thought and science that separates mind and matter and that typically posits matter as the fundamental basis of reality.¹¹³

When reading Heidelberg on Fechner I thought of Mitchell, and was struck once again by Fechner's startling relevance to all things enchanted and cosmic that I had encountered. Heidelberg writes and cites Fechner as follows:

Fechner's provocative opinion that plants, the earth, and the entire universe have souls, and that the world is God's body, met with enormous resistance in science, in the humanities, and in theology: "My unfortunate little books dealing with the souls of stars and plants--materialists tearing at one end, idealists at the other, tossed away by disapproving natural scientists, sold cheaply by the book shops, and scrapped--have suffered plenty."¹¹⁴

Fechner showed an appreciation of visualising Earth floating in space, demonstrating that enchantment and discovery - a geophany - can be had from thinking about the concept, his term *Tagesansicht* has enlightened the challenge posed to wonder by science, and his thoughts on cosmic consciousness were far ahead of their time. However, his work is hard to access, not readily available in English, and many of his most majestic observations are only citable through other scholars such as William James, in some cases solely through paraphrasing. It is this author's hope that this dissertation, and this fleeting final connection,

¹¹³ Cassandra Vieten, 'In Memoriam: Edgar Mitchell, ScD, PhD', *Network Review*, 120 (2016), pp. 14-15

¹¹⁴ Heidelberg, *Nature From Within*, p. 119., citing Gustav Fechner, 1879, p.29.

may inspire others to research his work on the Earth and enchantment further, and thereby increase accessibility to his ideas.

A further opportunity for study is once more inspired by Frank White. In his 2019 book *The Cosma Hypothesis* White returns to his original interviews and a hypothesis that was on his mind at the time: that experiencing the OE gave participants an increased awareness of their citizenship not simply of planet Earth but of the entire universe:

As I interviewed even more astronauts for the third edition of the book, I increasingly found them talking about their relationship with the universe as well. With more interviews, I began to look back at some of my older astronaut conversations and realized I might have missed something in terms of identity, because I had focused so heavily on the way in which the astronauts had shifted from relating to parts of the Earth to relating to the whole. When we say that they look at the Earth “in space,” we are really saying they look at the Earth “in the universe.” Their relationship with the planet changes, but so does their relationship with the cosmos!¹¹⁵

If space travel can lead to the development of a new cosmology, of the individual or collective conception of our place in the universe, possibly through an enchanted experience, there is clearly much left to study in the area. It would seem that where enchantment and Space are concerned, the sky's no limit.

¹¹⁵ Frank White, *The Cosma Hypothesis: Implications of the Overview Effect* (Colorado: Morgan Brook Media, 2019), pp. 4-5.

Bibliography

Bender, Barbara, Introduction to *Landscape: Politics and Perspectives*, ed. by Barbara Bender (Oxford, UK, and Providence, RI: Berg Publishers, 1995 [1993]), pp. 1-17

Bender, Barbara, 'Stonehenge - Contested Landscapes (Medieval to Present-Day)', in *Landscape: Politics and Perspectives*, ed. by Barbara Bender (Oxford, UK, and Providence, RI: Berg Publishers, 1995 [1993]), pp. 245-279

Bimm, Jordan, 'Rethinking the Overview Effect' in *Quest: The History of Spaceflight (Quarterly)* Vol. 21, No. 1 (2014), pp. 39-47

Bowie, David, 'Space Oddity', London: Philips Records (1969).

Campion, Nicholas, 'Enchantment and the Awe of the Heavens', in *The Inspiration of Astronomical Phenomena VI*, ed. by Enrico Maria Corsini, ASP Conference Series, Vol. 441. (San Francisco: Astronomical Society of the Pacific, 2011) pp. 415-422

Curry, Patrick, *Enchantment: Wonder in Modern Life* (Edinburgh, UK: Floris Books, 2019)

Curry, Patrick, and Roy Willis, *Astrology, Science and Culture: Pulling Down the Moon*, (Oxford, UK, and New York, NY: Berg, 2004)

Curry, Patrick, *Defending Middle-Earth: Tolkien, Myth and Modernity* (Edinburgh, UK: Floris Books, 1997)

Eliot, T.S., 'Little Gidding', *Four Quartets* (US: Harcourt, 1941)

Emanuel, Louise, 'Harmony, Nostalgia and a Sense of Place', *The Harmony Debates*, Nicholas Campion (ed.) (Ceredigion, UK: Sophia Centre Press, 2020)

Ihle, Eva C., Jennifer B. Ritscher, and Nick Kanas, 'Positive Psychological Outcomes of Spaceflight: An Empirical Study', *Aviation, Space, and Environmental Medicine*, Vol. 77, No. 2 (2006), pp. 93–102

Kitson, Jennifer, and Kevin McHugh. 'Historic Enchantments – Materializing Nostalgia.', *Cultural Geographies*, Vol. 22, No. 3 (2015), pp. 487–508.

Heidelberger, Michael, *Nature From Within*, trans. by Cynthia Klorh (Pittsburgh: University of Pittsburgh Press, 2004)

Heaney, Seamus, 'A Herbal', *Human Chain*, (London, UK: Faber & Faber, 2010)

Nardo, Don, *The Blue Marble: How a Photograph Revealed Earth's Fragile Beauty* (Minnesota: Compass Point Books, 2014)

Nezami, Annahita, 'The Overview Effect and Counselling Psychology: Astronaut Experiences of Earth Gazing' (unpublished doctoral thesis, City, University of London, 2017)

Okushi, Jun and Marilyn Dudley-Flores, 'Space and Perceptions of Space in Spacecraft: An Astrosociological Perspective' (paper presented at the American Institute of Aeronautics and Astronautics Conference & Exposition, Long Beach, California, 18–20 September 2007)

Robinson, Tim, 'Listening to the Landscape', *Irish Review*, No. 14 (1993), pp. 21–32

Saler, Michael, 'Modernity and Enchantment: A Historiographic Review', *The American Historical Review*, Vol. 111, Issue 3 (June 2006), pp. 692–716

Taran, Leonardo, 'Heraclitus: The River Fragments', *The Society for Ancient Greek Philosophy Newsletter.*, 253 (1989)

Tcharfas, Julia, 'Through the lens of a space tourist', *Science Museum Group Journal*, 4 (2015)
<DOI (10.15180/150407)>

Tilley, Christopher, *A Phenomenology of Landscape* (Oxford, UK, and Providence, RI: Berg Publishers, 1994)

Tuan, Yi-Fu, *Escapism* (Baltimore, MD: The John Hopkins University Press, 1998)

Tuan, Yi-Fu, *Space and Place* (Minneapolis, MN: University of Minnesota Press, 2014 [1977])

Vieten, Cassandra, 'In Memoriam: Edgar Mitchell, ScD, PhD', *Network Review*, 120 (2016), pp. 14–15

Voski, Anaïs, 'The ecological significance of the overview effect: Environmental attitudes and behaviours in astronauts', *Journal of Environmental Psychology*, 70 (2020)
<<https://doi.org/10.1016/j.jenvp.2020.101454>>

Weber, Max, *Max Weber: Essays in Sociology*, H. H. Garth and C. Mills Wright (ed.) (London: Kegan Paul, Trench, Trubner & Co., 1947), cited in Nicholas Campion, 'Enchantment and the Awe of the Heavens', in *The Inspiration of Astronomical Phenomena VI*, ed. by Enrico Maria Corsini, ASP Conference Series, Vol. 441. (San Francisco: Astronomical Society of the Pacific, 2011)

White, Frank, *The Overview Effect: Space Exploration and Human Evolution* (Boston: Houghton Mifflin Company, 1987)

White, Frank, *The Cosma Hypothesis: Implications of the Overview Effect* (Colorado: Morgan Brook Media, 2019)

Whitesides, Loretta Hidalgo, *The New Right Stuff: Using Space to Bring Out the Best in You*, (Independently Published, 2018)

Yaden, David B., Jonathan Iwry, Kelley J. Slack, Johannes C. Eichstaedt, Yukun Zhao, George E. Vaillant, and Andrew B. Newberg, 'The Overview Effect: Awe and Self-Transcendent Experience in Space Flight', *Psychology of Consciousness: Theory, Research, and Practice*, Vol. 3, No. 1 (2016), pp. 1–11
