

The wrestle for a holistic wreality through science and religion: A science teacher's autoethnography

By

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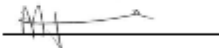
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Dedication and Acknowledgements

This thesis is dedicated to all wrestling souls on their journey to growing a defensible wreality, a personally meaningful and self-constructed reality. Many such souls have their work cited in this thesis but a great many more have not. Some pursue the wrestle through science while others do so through the arts or religion in some other form. It is to you, my fellow wreality wrestlers and closest brothers and sisters in life, that I dedicate this work. It is done with a heartfelt gratitude to those who have come before, those who are alive today and those who will come in the future. I pray with all my heart that each of us may find solace in each other and in the ever-present help that accompanies us on our journey.

On my journey of conducting this research, I have often said that I did not write this thesis. I acknowledge that I could never write it. Each moment of each day that I wrote, a different Philip found the knowledge and insight required to add his bit. The cumulative result of these many hundreds of Philip's is what you see. Even then, the many gifts of knowledge, guidance, expertise and insights of many others have been integrated into it.

For this needed help, my heartfelt and sincere thanks go to my wife Tessa, my friends N, D, G, B and C, my sister S, and my sons M and J for reading and giving me feedback along the way. I also thank my parents, daughter and friends who have given me ongoing support and accompaniment on this extraordinary and demanding journey. Furthermore, I am deeply grateful to my language editor, Brenda Gouws, for her fine touches, to my co-supervisor, Professor Estelle Gaigher, for her expert guidance in challenging the science content and helping to clarify and improve many important concepts used in this work, and to my primary supervisor Professor Johan Wassermann, for supporting me with truly expert guidance and without whose help this thesis would still be a mess of disorganised ideas unworthy of academia.

Abstract

I am an experienced science teacher and express my love of science through poetry. This autoethnography digs deeply into the how and why of my life-long wrestle for a holistic wreality that believes that meaning-rich learning is needed in the science classroom. This wrestle led me to several significant personal experiences and to question many assumptions within my ethnographic background, science and religion. It also opened me to the ideas of Rudolf Steiner and Plato and led to the combined holism of Jan Smuts and Wolfgang von Goethe that became the theoretical framework for this autoethnography.

As a science teacher, I love the training of disciplined observation and thinking as well as the empowerment implicit in the independent investigation that science offers. Research shows, however, that the materialist, positivist assumptions of Physical Science create conceptual and alienation challenges for many science students and that the use of the arts can help to address some of these. Research also shows that many science Nobel Laureates practice the arts or are religious. My experiences in the science classroom affirm the benefits of artistic and religious meaning-making. This thesis presents my wrestle for a holistic wreality that contextualises objective scientific facts within subjective indigenous and religious knowledge, for a defragmented or holistic understanding and working relationship between them.

This thesis introduces the concept of wreality as an individual's construct of reality and adds to the field of autoethnographic methodology through the development and use of a Concept Map of Autoethnography. It also demonstrates a metaphorical world using Boal's 'theatre of the oppressed' to allow for a creative and liberating framework for my data presentation and analysis.

Findings from this research include the Holism Evolution Graph of my holistic wreality which hypothesises the emergence of a new substance into our holistic universe. The nature of this substance and how we may have an experience of it is

described in my autoethnography and referenced against religious texts and researched personal experiences. Findings of a personal nature, such as a reflection on the ethnographic worlds of my youth and my possible mild autism, also emerged.

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Forward

This thesis, titled ‘A wrestle for a holistic wreality through science and religion: A science teacher’s autoethnography’, uses the conceptual framework of holism to weave my personal experiences together with the ideas and practices of science, religion and education into an autoethnography. This is done in order to construct a personalised inner reality, a wreality, which is defensible in the light of both science and religion.

I have been a science teacher for over 30 years. My lifelong wrestle has been to find and teach an understanding of the world that enables my students to develop the skills required to study physical and natural science while enabling them to experience a growth in their scientific knowledge and skilfulness that is intimately related to their spiritual development as human beings (as an aspect of religion referred to in the title).

This thesis is an autoethnography because it examines the relevant ethnographic contexts within which my wrestle took place. Its focus is my lifelong, wrestle to form a holistic wreality that demonstrates the Goethean holistic expression that

... a single part reflects the whole.

Nought is within and nought without,

For what is in is also out.

(Von Goethe, 1994) (written between 1765 and 1832)

In light of the above, this thesis follows a fairly conventional academic structure so that the reader can progressively build a picture of what informed the development of my wreality. My wrestle demanded that I confront many personal and conventional assumptions, particularly those made by science and religion. As a result, the reader may be confronted with ideas and experiences that are unusual and beyond what they have read about or experienced themselves. Some ideas will

possibly also be beyond the readers' comfort range and perhaps conflict with their beliefs and sensibilities.

I have no wish to insult or undermine such personally or commonly held ideas. On the contrary, it is my striving to show how my personal and earnest wrestle has emerged within my specific ethnographic context and recognises its subjective limitations. It is thus my wish that the reader take both a compassionate and critical stance towards what is presented here; compassion for the sincere inner wrestle and challenges faced while being critical of the ideas and findings presented.

Chapter 1

Introduction to this study and background to my wrestle for wreality

Introduction

This thesis is an autoethnography that uses holism to explore my personal experiences within my socio-cultural world. This study draws on my relationship with science, religion and education as the dominant influences on me as a science teacher. These form the ground of my wrestle for an individual reality, my wreality, and which I strive to make defensible in the light of each.

Chapter 1 begins with the background to this study in which I will show the relevant aspects of who I am and what the broad personal and ethnographic context of this study is. This will be followed by my rationale, motivation, focus and purpose for doing this work. After the research questions have been presented, each key term of the thesis title and related concepts are introduced to clarify their use within this study.

Chapter 2 is the theoretical positioning of this study. Holism will be theorised and framed in this chapter to become the lens through which to view the rest of this thesis. Chapter 3 reviews the relevant literature on common and unusual human perceptions in relation to science and religion and then picks up the key themes introduced in Chapter 1 of wrestling, reality, science, religion, science education, and the field of autoethnography. Chapter 3 concludes with autoethnographies and stories of science teachers. The result of this literature search will endeavour to show the gap in the literature that I believe this study addresses.

The research design and methodology in Chapter 4 includes the presentation of the epistemology and ontology of this work. In this chapter, a Concept Map of Autoethnography is developed to contextualise this field of research. The methods used to construct and analyse this thesis are discussed and the Wreality Wrestling Arena, designed for the construction, presentation and processing of my data, is detailed.

Chapter 5 is the presentation of my data in three stages. Each stage is dramatically presented in the Wreality Wrestling Arena. The first stage is a creative writing piece which describes my struggle to position myself socio-culturally for this study titled 200 Days at Sea. Next is a presentation of My Life Story, my journey through life with anecdotes, stories, artefacts and writings that show many relevant cultural, religious, scientific, educational and spiritual experiences. Chapter 5 concludes with a final creative writing piece titled 400 Days on Land, in which the key elements of My Life Story are discussed.

A general analysis of the data takes place in the first of the four sections in Chapter 6. This is followed by an examination of the progress of my data through the Concept Map of Autoethnography developed in Chapter 3. This chapter ends with an analysis of the emergent codes in Section 3 and my responses to the research questions in Section 4.

The concluding chapter, Chapter 7, presents the methodological, theoretical and autoethnographical conclusions to this research, and ends with a personal reflection.

Personal, professional and academic backgrounds and contexts

I write science and education poems. Some are dark and dramatic to demonstrate the dynamism of physics or chemistry. Others are a quiet, cutting critique of modern education. Some of my favourite though, like the one in Figure 1.1, which I wrote when I discovered that electrons can be matter or energy, are light-hearted and fun.

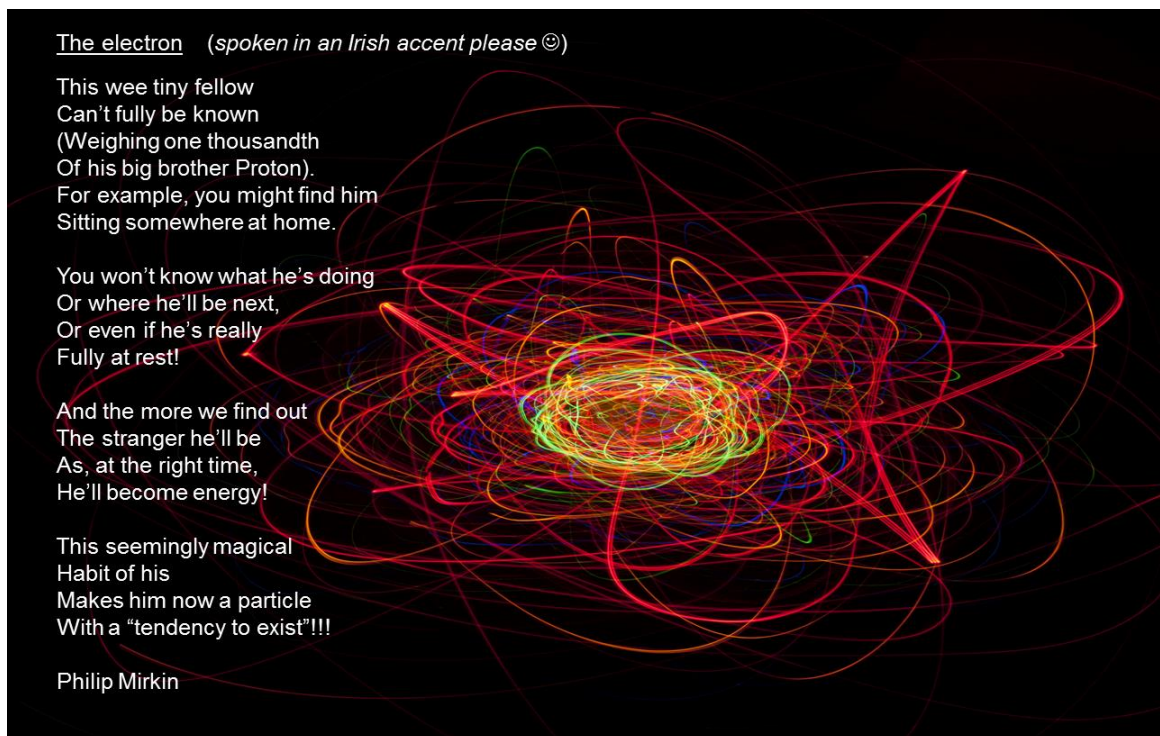


Figure 1.1: Poem called 'The electron' written around 2011 when teaching Grade 11 chemistry

In the past, my students have usually responded with interest to science stories and poetry. This made me want to make my science poetry available to others to use in their Physical Science¹ classrooms or to enrich their science understanding with imagination. To facilitate this, I set up a Facebook page called Deep Science Education (Mirkin, 2016a) and did my master's study on the use of poetry in the science classroom (Mirkin, 2017). It felt important to me to bring the arts into science education and I thought that these efforts would satisfy my need. It did not. The more I thought about my reasons for writing science stories and poetry and the more I realised how important it was to me, the further back I needed to go in my life to find its origins and the deeper I needed to go to find out what I was really hoping to achieve. Everything in my life seems to have played a role in shaping why I write

¹ Physical Science is the name given to the study of physics and chemistry in the last three years of high school in South Africa. Natural Science is the name given to the study of science when it includes biological and geographical sciences for younger school students.

science poetry, and so my focus expanded and deepened to wanting to explore my lifelong wrestle for a wreality that had brought me to this point.

When I learned about autoethnography about a year prior to beginning this study, I recognised that a reflective investigation of my life's journey would be a powerful way to create a holistic picture of my wrestle for wreality. For this investigation, a full examination of the ideas that were prevalent in my ethnographic world as well as the religious and cultural aspects of my world would be needed.

Personal background

I have been rejected, judged and/or attacked for being a teacher, Jewish, Christian, English-speaking, short, bald, male, a White² South African, British, poor, rich, privileged and much more. I have also been accepted and rewarded for most of these. I have been praised as a 'cool Jew' by a possible anti-Semite while at school and 'n klein kak, maar jy's alright' (a little shit, but I like you) by an Afrikaner-hater-of-Englishmen while in the South African Defence Force (referred to as 'army' from here on) in 1987 and 1988. I have also been loved and accepted by some Muslims (having nearly married one), Afrikaners (I am married to one), Coloureds, Indians and Blacks,³ while also being rejected by some fellow White English speakers, Jews (from among those closest to me for my Christian beliefs) and Christians (for some of my non-traditional beliefs).

Through all this I have found that Epictetus, AD 55–135, is correct when he says that 'we cannot choose our external circumstances, but we can always choose how we respond to them' (Nierenberg, Mayersohn, Serpa, Holovatyk, Smith and Cooper, 2016:32). Viktor Frankl would add that choosing how we respond is, in fact, the only way in which we are truly free (Frankl, 1985).

² All race classifications as used in South Africa will be given in capitals.

³ Afrikaners are White South Africans who speak Afrikaans and Coloureds are a mixed-race people of a great variety of backgrounds including Malaysian, Indian, Black and White.

On my journey, I have tried to remain a passionate, honest and open wrestler for wreality. This attitude has enabled me to realise that what people say about me tells me more about them and their wreality than about myself. By striving to not judge them while inwardly working to accept even the worst possible fate for being who I am, I have managed to face several difficult situations with trust and simple courage, despite much fear.

My multi-ethnic and multi-national background, having been born in Scotland to a Spanish, Catholic mother of mixed North-African and European origins and to a South African, Jewish father of Lithuanian descent and Semitic race, was compounded by having been raised privileged, White and English in apartheid South Africa.

Powerful influences in the lives of my mother and father played a role in my background. The Spanish Civil War of 1936 to 1939 (Buckley and Preston, 2013) occurred during my mother's formative childhood years. She grew up privileged and away from the cities where most of the fighting took place, but nonetheless knew of the burning of churches and murder of the faithful of her beloved Catholicism. During the war, her father, who was a General in Franco's Fascist army, was almost never home. She says that the most carefree time in her life was her late teenagerhood in Spanish Morocco where her father was sent by the army after the Civil War. She experienced people of other religions for the first time in Morocco, where there was a culture of openness and respect among all. By the time her family returned to Spain, she wanted to experience other countries and moved to London, England, to study nursing, where she met my father.

My father grew up Jewish in Adelaide, a small town in the now Eastern Cape Province of South Africa. Here he regularly defended his Jewishness with his fists from Nazi supporters among the children at his White, Afrikaans–English bilingual, co-educational primary school. His grandparents had experienced the expulsion of Jews by the Russian army in 1914 and 1915 during the First World War (1914–1918) (Lohr, 2001) and his parents left for SA in the 1920s due to famine and

poverty (Greenbaum, 1995). The thriving Lithuanian Jewish community was affected by the expulsions and restrictions on means for Jews to make a livelihood causing many to leave. Those that stayed were almost entirely massacred by the Nazis during the Second World War of 1939 to 1945.

My parents' personal traumas and religious differences were partly responsible for their divorce, but the overall racial-cultural-religious-nationality mix spilled over into the lives of us five children of whom one is now a Christian priest and another a Jewish rabbi. Two of us follow Anthroposophical/Rudolf Steiner Christianity, another two follow strict Orthodox Judaism and one, my only full-sister, identifies as Jewish but does not believe in God. We have also married spouses of different backgrounds: South African-English-Christian, British-English-agnostic, South African-Afrikaner-Christian, and two have married South African-English-Jewish spouses.

When I was in primary school, my family was poor relative to my peers'. My father worked long hours and was always exhausted when he got home. By the time I had reached my early teens, my father had become a partner in an accounting practice in Cape Town and had bought a nice house in Newlands after moving the 800km from Port Elizabeth, South Africa.

I grew up Jewish and, from the age of eight, lived in the 1970s and early 1980s well-educated, liberal English world of southern suburbs Cape Town. The values of this world were still superficially influenced by the Anglican Church and Anglo-Saxon culture and positioned itself as separate from the apartheid⁴ South Africa in which it was placed (Lambert, 2004; 2009). The people of this world seemed to see themselves as embedded in an open-minded, scientific and reason-based worldview and 'above' the prejudices of apartheid, despite benefiting from its privilege of secure freedom to live out their chosen lifestyle, get a good education and make lots of money (Bickford-Smith, Van Heyningen and Worden, 1999). We

⁴ The South African official policy of separate development for different races, favouring Whites.

children had no interaction with Black, Coloured or Indian people whom we only saw when they were working in our homes, at school or on the streets. Black domestic workers often became close to their White families, and my mother, over 30 years later, is still in regular contact with a previous domestic worker. Nor did we meet Afrikaners who were ‘the government’, but whom we saw working in the post office and other official places. In this insulated bubble-world, we were taught that we would go to university and become South Africa’s future intellectual, economic and international leadership.

Although there was a sense of community among us children at school, we made distinctions between Jews and Christians, Anglicans and Catholics, rich and poor, clever and ‘stupid’, older and younger and so on. Had racial or biological sexual differences existed among us, we would certainly have added these to our list.

During my Grade 9 year in 1978, I attended a party where I encountered a Coloured girl socially for the first time. She went to a private girls’ school and came from a privileged, English-speaking background, so we were culturally similar. It was only many years later that I realised how much we children lived around apartheid without recognising its influence on our lives. It was also many years later that I sensed that an aspect of my youthful attraction to Coloured girls was possibly because they were a similar colour to my mother.

As a teenager, I loved debating ideas and I did this predominantly with my Jewish friends. With my Christian friends, we played sport, did athletics, rode bicycles, skateboarded and played drums. Both groups listened to music and went partying, but with my Jewish friends more emphasis was placed on conversation and relationships than on ‘doing stuff’. Among my Jewish friends, not many played sport as it was not as highly valued as academic achievement. I played hockey with some ‘Christian friends’ and was reasonably good at it.

There are many formative stories from school, university and my time in the army that are related in Chapter 5 of this thesis and which form part of the

autoethnographic background to my study. These Chapter 5 stories help to frame my study-path from school to university, my change from studying engineering to education, my disillusion with science, and my growing understanding of how religious thought and practice can be understood with a scientific clarity. One example of importance for my life was my time in the army when I met Afrikaners in an Afrikaans environment for the first time. Although we had little in common politically and philosophically, I found them to mostly have ‘big hearts’ and thus felt a close affinity with many of them. This indirectly led to me marrying my Afrikaner wife.

All this personal diversity, coupled with a feeling of not belonging anywhere, made my world an interesting place of disjointed and often conflicting realities. Not being able to reconcile these differences, I suffered from the modern problem of alienation from my life and myself (Killeen, 1998). I struggled to identify with any religious belief – not the Judaism of my father in which I was raised nor the Catholicism of my mother nor the Anglicanism of my schooling. Also, although I never attached my identity to any of the schools that I attended, I felt a stronger attachment to my universities (Gastrow, 2021).⁵ As hard as I tried, I could not find meaning for myself in any of them. As Nietzsche says, ‘If we have our own why of life, we shall get along with almost any how’ (Nietzsche and Levy, 1912), and I found all ‘how’ painful because I could not find my ‘why’.

That said, on the surface of life, I was blessed to be happy and friendly, in a big family with parents who were married until 1982, one year after I finished high school. It seems that I was able to adapt to each of life’s little worlds but could not find my meaning in any. The disconnection between these worldviews made me ask many heartfelt questions. The lack of acceptable answers from the adults in my life made me lose hope of finding meaning, and the marital difficulties between my

⁵ During a fire that burned down part of Jagger Library at the University of Cape Town, I felt a physical pain in my abdomen as an expression of this connection.

parents contributed further to me developing a negative attitude to and lack of trust of all forms of authority, so I relied on my own efforts to build my wreality.

My inner distress ultimately led to me choosing to not follow the life-path that I believed was expected by my parents, teachers and my peers. A series of events while at the University of Cape Town led to a shattering loss of belief in my cultural background and the authority of science, and led to me changing my study path from engineering to education. By the age of 19, an earnestness in my desperate and independent wrestle for wreality awoke in me.

After university I served a two-year conscription in the army. The insights of these experiences and from other sources, like that of Rudolf Steiner (Easton, 1997; Steiner, Adams and Darrell, 1972; Steiner, 1966, 1967), whose work I encountered for the first time while at university, enabled me to construct a wreality very different from anything that I had encountered in my background. While teaching science and mathematics at Waldorf schools, I gained many insights into education as well as the phenomenological and holistic approach to science of Wolfgang von Goethe (referred to as Goethe from here on) (Seamon, 1998; Von Goethe and Eastlake, 1840). At a later stage on my journey, I discovered the findings of quantum mechanics (Tegmark and Wheeler, 2001), the educational ideas of Montessori (Kahn, 1990; Montessori, 1949) and the work of Jan Smuts (1926) on holism. All of these, it seems, have played a significant role in my writings and poetry as a science teacher and in developing a wreality that I can articulate and defend.

Background as a science teacher

How we educate children determines how they see the world, and, since science is so dominant in our modern worldview, I felt my role as a science teacher to be pivotal in enabling them to have a balanced perspective; one that encourages both objective and subjective learning and development. My educational and science writings and poetry over the years have tried to represent this type of holistic version of reality, some of which are presented in Chapter 5 (Mirkin, 2016a).

I have always felt that science's worship of reason is a good thing. I love teaching science not just because it teaches us about the world but also because it demands of my students to think and reason clearly. Reason has been praised by all religions as bringing understanding, as will be addressed in Chapter 3. I often use the fact that most of my students are religious to motivate them to make the required effort to master the subject.

My intention when teaching science has been to help awaken and develop my students' power of thinking, yet more is needed if we want our students to be able to operate truly scientifically. In this regard, 'The practice of science requires careful observation, experimentation and rational thinking accompanied by imaginative and intuitive insights to thrive in a mood of cutting-edge exploration' (Mirkin, 2017:1). To do this, I have needed to find ways to represent the content enticingly while giving it as rich and deep a context as possible, so that students can bring their religious feelings of reverence, awe and respect into their understanding and relationship with the science content to help them form a rich wreality of their own.

Background as a father and husband



Figure 1.2: Two of my children dressed up as characters from a story (Mirkin, 2021).

Having raised my own children on fairy tales and other stories, I learned how powerful these are for engaging interest. This is because children experience the

story as though they are living it themselves. Modern neuroscience shows that the brain networks that are active when we do an activity are equally active when we imagine doing it or when we hear it in a story (Paul, 2012). The depth and breadth of my own children's engagement and learning showed me how full and rich learning through story is (See Figure 1.2). They engage their thinking, feeling and experimenting while acting out different stories. Their understanding of the relationships between the different characters helps them with their own development and identity formation while gaining a personal morality, commitment and purpose. This is little different from science where we are always busy with the relationships between elements, quantities or factors, and where an equation is simply a distilled expression of these relationships.

Being exposed to the feeling-rich world of classical music through my wife, I experienced how emotionally shallow and disconnected the school science content had become for me. I needed to feel more personally moved by what I was teaching and found that when I taught using stories and poetry, many rich connections and experiences of relevance returned. There are always students who are ready and keen to learn science in its current form, and it was not for them that I felt the need to enliven the content with a more personal association. Beyond myself, it was for those who still retained the need for the content to have personal meaning (Jenkins and Nelson, 2005) in a way that was continuous with the story/narrative/religious approach that they knew from childhood. My later discovery that the arts (Root-Bernstein, 2011) and religion (Dimitrov, 2010) played a strong role in the lives of many science Nobel Laureates gave me further encouragement regarding the benefits of this approach.

Looking for security in life

From a very young age, I was exposed to stories which justified my Jewish community's fear for survival. Such fear is a real part of life for many modern Jews due to centuries of persecution and more recently due to the destruction of European Jewry in the 1938 to 1945 Second World War (Krausz and Tulea, 1997).

The state of Israel is, therefore, a very important source of security and comfort for these survival fears despite persistent threats of destruction from some countries or groups in the Middle East. Israel's 'Law of Return' guarantees citizenship to Jews from around the world (Hacohen, 1998). According to Judaism, being Jewish is passed down through the female line so, despite my father being Jewish, because my mother is Catholic, I am not regarded as Jewish. Thus, my two religious Jewish brothers needed to convert to Judaism to be accepted as Jewish. Should I have looked for my security there, it may have been difficult to obtain despite having had my Bar Mitzvah⁶ within the less strict Reform tradition.

As a cultural and religious 'homeless' child in my teenage years, having not found worldly security, I looked for it in thinking and ideas and found it in science. I turned to it with zeal, hoping to use it as solid ground upon which to create my wreality and give it worldly stature. I am not the first Jew to do so. The high percentage of Jewish Nobel prize winners before 2010 in Chemistry (20%), Physics (25%), Medicine (27%) and Economics (42%) points towards this, despite being only 0,2% of the world's population (Biro, 2013). This Jewish connection encouraged my efforts in science as well as my basic assumption that what gives me security of understanding and makes me feel better must contain truth and wholesomeness (Allen, 2017).

Having no memory of a personal belief in God as a young boy, I used the ideas of science to formulate many ideas about how everything was connected. My ongoing wrestle led me to read works by Plato, Smuts and Steiner. Through these and many others, from about the age of 19, my wreality evolved to find a new way to look at and find the positives in religion and science. What these are, are presented through the data and its analysis in later chapters.

⁶ A Bar Mitzvah is the coming of age ritual where a 13-year-old Jewish boy, after years of training, takes a leading role in the Sabbath Saturday morning religious service and reads to the congregation from the Torah, the Holy scriptures, for the first time.

Rationale and motivation for this study

Despite my current, deep love for the knowledge and wisdom of education, religion and science, I still do not believe in any of their current forms for addressing the needs of our modern humanity and education, or for finding what is real for me. Science and religion are the primary authorities that underpin most current people's wreality, but I felt that these separate and often opposing perspectives needed integration. My wrestle was driven by my need to find a framework for building a meaningful relationship between these two worldviews and a context for science education that will meet current student's developmental needs while growing the knowledge and skills needed for science.

Combining the holistic ideas of Smuts, Goethe and Steiner to find a personally acceptable wreality within my autoethnographic world further motivated me to do this research. I personally hope that this study will further my own journey towards a holistic wreality as well as add to the depth and perspective of concepts used when engaging with educational policy within academia and the teaching profession in the future.

Focus and purpose

This study focuses on the wrestle; my never-ending wrestle for a self-created, holistic and defensible wreality. It focuses on forming a wreality not reliant on any unquestioned inner or outer authority, but a microcosmic wreality as a personalised reflection of great macrocosmic universal realities. That we will probably never gain ultimate truth (Busch, Heinonen and Lahti, 2007; Comte, 1976) should not deter us from such a clear-thinking and heartfelt striving.

The purpose is to present my wrestled wreality for academic scrutiny. Although important and hopefully interesting, it is not only the findings of my personal wrestle that are intended to be the fruit of this thesis. Answering the 'how' and 'why' of my wrestle from my autoethnographic background will also be a demonstration of how

to explore a way in which clear logic and the assumed objective findings of science can find a holistic relationship with our personal, intuitive, spiritual experiences and stories as well as the religious texts that have been used for many centuries to guide human spiritual evolution towards health and strength.

Research Questions

Based on my stated rationale and purpose, my research questions are as follows:

Why and how did I wrestle for a holistic wreality through science and religion?

What are the findings of my wrestle?

How can my autoethnography provide possible insights for science education?

These questions are intended to keep the direction and movement of this study steadily moving towards addressing my stated intentions of adding to my personal and professional wreality as well as to academia.

Key concepts and how I use them in this study

Before embarking on the wrestle and dance of addressing these research questions, I need to clarify some concepts. The concepts of religion and science are in common use and so the essence of how they are used in this study needs to be distilled. I then attempt to identify the need for a term to indicate a person's individual reality and justify the creation of the concept of 'wreality' for this study. Within a holistic wreality are objective and subjective beliefs and clarifying what I mean by this ends this section.

Religion as story

The major religions that I am aware of, those of Buddhism, Hinduism, Judaism, Christianity and Islam, are all based on some form of teaching and practice that encourages human beings individually and collectively to grow morally and spiritually to become increasingly capable and responsible (Augustyn, Hall, Wang and Hill, 2017). Morality here implies the individual's ability to develop and follow

their higher conscience to serve what is best for the self, others and nature (Tomasello, 2016). Philosophies like those of Confucius, Plato, Aristotle and the Stoics stress the importance of discipline, development and direction of focus of our human faculties for our improvement. Although these philosophies do not directly rely on the existence or praise of God or gods, they still bear the mark of what I will call religion as the encouragement to work on ourselves and take responsibility for our lives individually and collectively.

Religion, like education, assumes that humans require development, maturation or evolution. This is usually achieved by being part of a community with common strivings and practices coupled with the individual wrestle within ourselves to understand and master our less mature, more short-term, comfort-seeking, lazy and/or selfish tendencies.

The community, socio-cultural and political-power elements of religion, although often associated with religion, will not be what I focus on in my use of this concept. These elements always influence the application of the spiritual strivings and growth of their communities, but because they are influences often imposed upon the growing individual, I will refer to them as 'culture' and not as religion.

It is important at this point to note the warning of Abraham Maslow that splitting the outer, cultural phenomena and the inner spiritual experiences and growth is unhealthy (Maslow, 1964). His holistic attitude is that any polarisation will lead to potentially negative consequences. Just as religions have both spiritual growth and cultural elements, so do schools, so my stance of focusing primarily on spiritual growth is potentially one-sided. I do not propose a rejection of the cultural aspects of religion which promote community and a healthy intimacy with the outer world, I rather wish to prioritise the aspects that work on developing the mind to consciously accompany meaningful action in my use of the concept of religion. I make this distinction so that I may present specific elements from religious texts while avoiding a debate of their social and political influences over time. As this study is an

autoethnography, I intend to address the socio-cultural aspects of religion relevant to my life.

All religions stimulate their followers' spiritual growth through the creative arts of enacted rituals, study, artworks and stories. The holy books of the Bhagavad Gita, Old and New Testament Bibles, the Qur'an and the sutras of the Buddha are all filled with stories that illustrate their teachings. The use of language and narrative is an important way in which their moral impulses and forces are shared among followers (Sanders, 2000). Prior to the adoption of the above-mentioned religions, indigenous folk stories and fairy tales of traditional and pagan cultures served a similar function where culture and religion were not as potentially separate as in the modern day (Bowie, 2006). These teachings were not intended to be scientific in the modern sense. The inclusion of miracles, angels, nature spirits, fairies, giants, monsters and other mythical creatures is common to them all (Stephens and Mccallum, 1998), and their presence was to inspire the spiritual development of their people and not necessarily to represent physically manifest beings.

One last important aspect of religion that I wish to stress is their liberating empowerment through personal growth. The Buddha's teaching liberated Hindu individuals in India from needing the priests to perform purifying rituals on their behalf (Kornfield, 2012), and he gave them the eight-fold path to overcome the experience of suffering. Jesus did a similar thing for his Jewish followers when he promised them forgiveness from 'sin' and from needing to follow the 'law' by 'following him' (John 8:7).⁷ It is religion in this individualised and liberating form that I will use here. In *200 Days at Sea* in Chapter 5, I mention the Buddha and Christ, and in other parts of this study I mention God. At each of these mentions, I would

⁷ All Bible references are from the King James Version.

Jesus's words, "He that is without sin among you, let him first cast a stone" (John 8:7) were directed at a woman caught having sex outside of marriage. They are a powerful picture of this transformation from the authority of the given 'law', which commands the condemnation of such acts, and his appeal to the higher authority of our conscience, which results in those wanting to throw stones to walk away as they recognise their own 'sinful' nature. In this way, he presents himself as a challenge for people to adopt conscience and compassion as the true 'law'.

like the reader to remember that I am using these as stimuli for this power of personal growth and empowerment, and to overlook any other associations that they may have with these names.

Confucianism and stoicism emphasise a daily practice to improve the human condition by improving oneself. This emphasis on performing outer deeds with precision, inner composure and compassion can also be seen as a form of religion, as the focus of both is the work required to be a ‘superior man’ for Confucius or a ‘good man’ for the stoics, regardless of social standing, sex or status. Although my use of the word religion does not include such outer practices, these philosophies contain the essence of what I refer to as religion. Socrates, as portrayed by Plato at his trial and before his death, gives us a picture of how philosophers develop their thinking in order to value the fruit of the mind and therefore liberate themselves from the fear of judgement by others and even death (Plato, 360 BCE; Plato, 1966).⁸ This carries the same message of training and empowerment of the mind as what I call religion.

In this thesis, I refer to religion in this broad, artistic, narrative-based context, where the stories we believe and take as guides for our lives, form the basis of our self-development and wreality. They are part of what I call ‘subjective proofs’ that convince us that something is true, but for which we can show no evidence other than through our personal example or testimony. When they become part of our wreality they motivate and bring meaning to our lives, move us in our feelings and underpin our interactions with others. The power of our stories can affect even historical or extreme conflict situations like the Palestinian–Israeli conflict where identities and actions can change through hearing stories of the ‘other’ (Hammack, 2006). In this way, religion forms an essential element of my wrestle for wreality.

⁸ In Plato’s *Phaedo*, he argues that the philosopher is always trying to eliminate the hindrances of the physical body in order to experience the world of perfect ideals, a world to which one can logically then suppose is where the philosopher goes after death.

The problem with religion as culture

It seems to me that the great religions were begun by spiritual leaders of humanity, people who had a very deep and real relationship to the spiritual world and who gave guidance and insight into how human beings could work so that they would eventually be able to experience this world for themselves. This guidance was so well structured that many individuals and communities, now some thousands of years later, continue to become enriched with meaning and purpose. Religion has truly stood the test of time.

Unfortunately, some of these gifts have become fixed within rigid forms of belief and practice where followers may believe that these forms are the only way to the promised blessedness of our maturation. A hardening may grow in them when these intended practices for spiritual growth become, instead, cultural practices where praying in certain ways or languages, or believing certain thoughts are perceived to be the sole guarantors of salvation. These practices may then become the anchors to their followers' survival and identity. This approach of believing that our inner growth is attached to an exclusive path and cultural identity can lead to a kind of existential anxiety, one that might not lead to inner maturation, but rather trap one in a fear-based community structure where to challenge or not follow these practices can lead to rejection or attack from within one's own group. In this way, some groups feel superior to or defensive against others who do not follow their path. Some extensive research seems to indicate that, in most cases, regardless of which religions are involved, it is indeed cultural, ethnic and political struggles that cause so-called religious wars (Gregg, 2003), and that the religious beliefs and practices are then used as justification.

In this way, a potentially liberating impulse from religion could become inverted into an oppressive force which limits individual and community identity, growth and intimacy. Even new insights from within the group may become stifled by the tightly held doctrines. Approaching religion with a scientific mindset makes seeing this inversion easy by showing the destructive potential of such unquestioned dogmatic

practices and beliefs. Other than mentioning some events of this in my own life, this thesis does not address any of these powerful challenges. They are mentioned here because many modern people associate these destructive and imprisoning influences with religion. Those who reject religion are often rejecting these unfree aspects of it and associate negative thoughts with concepts like religion, God, Jesus, Mohammed and the like.

In this thesis, I refer to religion and religious figures as the bringers of the seeds for humanity's spiritual enrichment and I hope that the reader will try to see their use in this light despite the challenge that I know using such words presents.

Science

Gifts and challenges inherent in scientific thinking

The ideas, gifts and practices of science are all around us and influence our lives in almost every way imaginable. Since the beginning of the Industrial Revolution in the 1760s, most aspects of life continue to change at an ever-increasing speed, from our daily routine and socio-political-economic-cultural practices to the things we believe and think about (Hudson, 2014). The scientific paradigm now dominates most of modern life from its obvious application in technology for transport, communication, entertainment, industry, medicine and education to its often-overlooked domination in the way we understand reality and value/reward human endeavour.

The fruits of science have solved many problems but have also led to further challenges, some of which are hard to solve, such as ocean-plastic pollution or high atmospheric carbon dioxide levels. Furthermore, our focus on technology and other fruits of science can lead some people to feel alienated and disconnected from their inner nature and even from the world as presented by science. The rise in the status of the science, technology, engineering and mathematics branches of study and work also often leads to less emphasis and reward for work in the humanities (Lewin, 2013).

Yet, these seem to be symptoms of the real cause. The pure, objective, rational logic of science seems to contain a hidden danger of turning everything, including ourselves, into objects. It asks of us to not include anything that is not objectively provable, and so diminishes the value of our inner, self-reflective conscience and our subjective experiences. This could lead us in our scientific work to imagine that we do not need to grow or mature as human beings in our humanity, only in our scientific understanding and skilfulness (Smuts, 1926).

Despite all the advances it has provided, the fundamental questions of identity, personal growth and meaning in life are difficult to address through science (Sacks, 2011). This one-sidedness is what allows all forms of potential harm, greed and selfish motives as well as deliberate destructive intentions to direct our scientific efforts without the needed checks and balances. A Christian priest (Benesch, 1983) and a Jewish rabbi (Sacks, 2011) who have examined the state of science say that it needs the inclusion of such self-reflective examination if it is to be safe from its self-created one-sidedness. It is usually only the external forces of national or international laws and regulations that perform this management role. Science and its applications, it seems, still need to be chaperoned by governments as well as environmental and human rights groups. Further exploration of this one-sidedness as well as related ideas in science will be presented in Chapter 3.

The wrestle

The author of *Narnia*, C.S. Lewis, tells us of his wrestle for reality through reason and intuition (Markos, 2003). He refers to the Bible figure Jacob and his all-night wrestle with an Angel, which resulted in his name being changed to Israel, loosely expressed as 'the one who wrestles with God' (Genesis 32:22-32). It is through Jacob that the Jewish nation is birthed, seemingly forever destined to wrestle with God if my life is any reflection of this. Such a wrestle for meaning and wreality seems to be a widespread modern phenomenon.

In this thesis, it is this type of wrestle that is implied. My personal experiences, the facts of science, and religious scriptures, form a triangle of data that will be cross-

referenced and tested using reasoning and intuition in the formation of my holistic wreality.

Wreality: Why coin a new concept?

Wreality is the concept that I use to describe an individual's initially given, and later hard-fought-for, partially complete, self-created inner map of reality – our *REALITY* *W*-ithin.

The fullness of reality is too broad and deep to ever be completely grasped solely through our current, rational consciousness (Schiappa, 2003) or any other single means. Investigating wreality is equally impossible to fathom completely, but it is interesting because it reveals the elements of the broader reality that are important to the holder as well as the individual way in which they are used and connected. In this study, the foregrounded and ignored elements reveal the needs and priorities of my wrestle, and my autoethnography will be able to shed light on the context of why and how this may have come about.

Searching for a word that expresses the concept of our personal reality or our self-created identity and inner reality, as opposed to an objective or universal reality, brought no results. Terms like 'private self' or 'inner self' focus on the identity of the person but not their perspective of reality or beliefs. 'Personal-perspective reality' or 'subjective reality' would better fit the concept but are combinations of words, descriptions rather than a concept. The term 'worldview' is a better fit but it is usually used to represent a particular philosophical perspective, such as a scientific or Christian worldview or paradigm even though it may also refer to an individualised creation (Naugle, 2002). I decided to reject it for my study when I found that even the book, *Tsawalk: A Nuu-chah-nulth Worldview*, which embraces holistic thinking and rejects the fragmentation of what it calls Western understanding, uses 'worldview' mostly to refer to such categorised perspectives (Atleo, 2007).

Having my focus on the inner wrestle, I realised that in the word wrestle there are several important elements. The origin of the word wrestle is from the word wrest,

which is to pull something free by using force or even violence. The word was also used archaically as a noun to mean the key or tool used to tune a musical string-instrument. This idea links well with my notion of the wrestle for wreality, which is to fine-tune my wreality to enable my personal experiences, the findings of science and my interpretation of religious writings to all resonate in harmony.

Less relevant to the origins of the word is the observation that wrestle has the silent letters of 'w' and 't'. Furthermore, although this is not the origin of the word, within the word wrestle is the word rest. This makes sense to me as it symbolises the challenge of the wrestle to recognise the silences and find some place of peace. By putting a 'w' in front of the word 'reality', the word 'real' falls within wreality. With the silent 'w', it now has more of the elements observed in the word wrestle. The two words now form a working pair in the human work required for a meaning-rich grasp of what is personally restful and real as the fruit of our 'wrestle for wreality'.

Objective proof

Natural science is always in the act of trying to find what I call objective proof. The evidence that science seeks for this proof is regarded as observable and objectively verifiable, and independent from the person who performs the investigation. This results in what are regarded as facts. An example of this is gravity. Objects close to the Earth will fall down, like in the case of the apple that Newton observed and led to his work on gravity; a story which is possibly true (Carey, 2012). Experimental evidence is regarded as indisputable and gives us facts that do not rely on the authority of any individual or group. It is truly a form of solid ground on which knowledge, truth or reality can stand. Anyone who disputes something that has been proven with genuine scientific methods would need to use the same or similar methods, perhaps with different experimental conditions, to find more or different data with which to challenge the facts. This is how scientific knowledge grows.

This does not mean that all scientific theories are correct. Scientists may wrongly interpret the results, or the data may be insufficient to create a comprehensive knowledge of the reality being studied. This was the case with Newton's

understanding of gravity and motion which Einstein's theory of relativity improved upon (Heisenberg, 1958). Nor does it mean that this is the only way to find and learn about reality. Natural science has deliberately excluded certain types of knowledge from its field and it is these that are addressed next.

Subjective proof

These are things that we 'prove' for ourselves but cannot show to anybody else, yet we may try to convince others of them by our own example or referencing their own experiences. Because we can be subject to illusions and self-deception, natural science regards these 'proofs' as invalid and devoid of truth, and yet we need and use them all the time. An example of this is our belief in the value of money, a human creation that only works as a medium of exchange because everyone believes and trusts in its value. All words and concepts are similar subjective proofs in that we believe in their shared meaning.

One subjective proof relevant to this study is the belief in God or gods. Science cannot prove or disprove the existence of gods or beings without physical bodies. If it could, we would be able to find external evidence for the gods and the question of their existence would no longer be up for debate. There is objective proof that I exist because I have a physical body that others can observe, but when I die the part of me that is writing this thesis will no longer be active in my body. What this part of me is or where it has gone when I die cannot be discovered using the methods of physical science. The existence of any being that does not have a physical body would, therefore, not be objectively provable. This does not mean that they do not exist, just that normal scientific methods cannot test for their existence. As a result, to have any understanding of who and what we are beyond our bodies, we need a different way of knowing – we need subjective proofs.

The stories related in this thesis have nothing to do with the subjective proof of money. Something that is related to this study is the information that we get through our senses. Proving that sound and light waves exist is easy to do using accepted scientific methods, but using objective science to prove that sound and light exist is

impossible. It is only because sighted and hearing people all share the subjective experiences that we agree sound and light exist. If we suddenly came across a community who lived deep under the ocean, under the ground or in dark caves for many generations and who had lost their sense of sight, as have some animal species from those conditions, they would experience difficulty accepting our ‘proof’ that light exists. A detailed discussion of this will be presented in Chapter 3. Watching videos of people who are able to see colour (Willis, 2017) or hear sound (Newsflare, 2020) for the first time shows just how powerful the experience of subjective proof is.

In this thesis, I take the position that we are all living as though in a dark cave (Oyebode, 2011), having certain senses of perception that we are able to use at present while having the potential to develop new ones to perceive different substances in the future. A current scientific theory is that we can only directly detect one twentieth of the substances in the universe (Perlov and Vilenkin, 2017).⁹ The ‘missing’ 95 per cent is called dark matter and dark energy because it is currently hidden from our scientific perception despite us seeing some of its effects on matter. This idea originally came from observations about the changing rate of expansion of our universe and rotational speeds within galaxies, but recent experiments with fundamental particles called muons have also presented evidence of influences that are beyond explanation from our current view of physics (Overbye, 2021). Religions also mention a spiritual world, which some people have claimed to perceive. It seems reasonable therefore to assume that since evolution has brought us perception of some substances in the past, new capacity for perception may arise in the future.

⁹ There is an alternative theory to explain the phenomena that gave rise to the idea of dark matter and evidence is growing in its favour, but for now the existing model remains accepted in science (Merritt, 2020).

One type of subjectivity with which scientists, myself included, have a real problem is what can be called superstition, that is, a generalised or universalised belief unsupported by logical reasoning or other evidence.

The missing ingredient in superstition is its inability to withstand the tests of context, cross-referencing, doubt or challenge with open-minded enquiry. In order to qualify for what I call subjective proof, a degree of experience, introspection, investigation, reason and doubt is needed. In this way, 'proof' resembles Plato's challenge of living an 'examined life' (Plato, 1966), an examined wreality.

Subjective proofs are not objectively falsifiable (Harlow and Aberasturi, 2006) and so need a different kind of test, one that, in this thesis, will involve the cross referencing of personal experiences, objective proofs and religious texts.

Conclusion

In this chapter, the concept of wreality, which represents an individual's developing inner construction of reality, was introduced. This wreality is developed through objective proofs that are formed through the evidence of natural science and subjective proofs that we become convinced of, but for which we can show no objective proof.

This chapter has presented my personal love for and challenge with religion, science and science education. The discipline and training that science gives is of tremendous value for the understanding of reality as well as for the development of mental strength to those who study it. My experience is that science's rejection of subjective proof causes alienation and disconnection from themselves and their world for some students, and this forms a motivating factor in my wrestle for wreality as a science teacher. It has also influenced my choice of holism as my theoretical framework which is covered in the next chapter.

My personal background of growing up White and Jewish while being multiracial, multinational and multifaith as well as having had many experiences with other

racess, religions and nationalities were hinted at as personal factors in my journey to create a secure basis in my wrestle for a wreality. This was a strong motivation for making this study follow an autoethnographic methodology, which will be detailed in Chapters 3 and 4.

Questioning my writing of science poetry opened into the need to examine the development of my wreality as a culturally and philosophically homeless child. The research questions that emerged from this are how and why I have wrestled for a holistic wreality, what wreality has emerged as a result of this wrestle and what its potential fruits for science education are.

Chapter 2

Holism: The theoretical framework of my wrestle

Introduction

The theory, theoretical framework and/or conceptual framework of a study serve to guide its intention, focus and direction. The general theory upon which it is based can be a grand one, such as Marxism, but how specific concepts are put together within the theory gives the grounding structure or theoretical framework for its use in a study and guides the reader to a meaningful engagement (Rocco and Plakhotnik, 2009). The conceptual framework can then be understood as the visual or written representation of this framework, and can be used to guide the methodological application of the theory (Varpio, Paradis, Uijtdehaage and Young, 2020). Without a theory or framework in a study, the author will be drawing on undeclared and/or unexamined assumptions in their work. This is problematic as the reader then needs to make assumptions to determine how the author makes sense of their world and what they are intending to achieve with their work. In this thesis I will not refer to a conceptual framework, but will develop a theoretical framework structure within the theory of holism, which will also provide the basis for how this research proceeds (Adom, Hussein and Agyem, 2018).

These days it seems fashionable to call everything holistic, from children's education to a shopping experience, so clarifying the theory and how it is framed here is an important task. Holism, as used in this thesis, is built upon Aristotle's idea that the whole is more than the sum of the parts (Aristotle, 350 BC) and enriched by Goethe's idea that 'a single part reflects the whole. Nought is within and nought without, For what is in is also out.' (Von Goethe, 1994:159). To these ideas are added Smuts's concept of holism as an active factor within evolution as a contextualising framework (Smuts, 1926).

Related concepts such as emergence, transdisciplinarity, monism, new materialism and archetype are then discussed in relation to holism. This chapter concludes with

applications that lend support to the use of holism in autoethnographies, science education and, as a result, this study.

Theorising Holism

The general picture

Writer, poet, statesman, scientist and philosopher Johann Wolfgang von Goethe lived from 1749 to 1832 and remains one of the most highly respected contributors to German cultural life. He lived during a cultural flowering period in what is today known as Germany alongside his personal friend, Friedrich Schiller, a famous poet and dramatist, who, in turn, was a pupil of the renowned philosopher Emmanuel Kant (Boyle, 1999).

Goethe's scientific work seems to have begun when studying the spectral colours that emerge when light passes through a triangular prism (Von Goethe et al., 1840). His conclusions about light were so different from those of Newton that he worked hard to present a scientific method that sought to build the experience of multiple phenomena towards an experience of wholeness in opposition to what he perceived as a reductionist one capable of producing only 'fragmented' knowledge (Von Goethe et al., 1840). From a scientific perspective, it is easy to see why science still seems to prefer working with individual or particular events as opposed to synthesising an artistic conceptualisation of the 'whole'. There are also challenges to the meaning and use of the term holism which is used differently in different fields (Devitt, 1993; Jörgenfelt and Partington, 2019). Goethe did not use the term holism. The primal plant, archetypal plant or *Urplant*, as described by Goethe in the quote that follows, is the fruit of his many years of detailed observations of a multitude of plant phenomena that he says describe the multiple metamorphoses that plants undergo.

The primal plant is going to be the strangest creature in the world, which nature herself shall envy me. With this model and the key to it, it will be possible to go on forever inventing plants and know that their existence is logical; that is

to say, if they do not actually exist, they could, for they are not the shadowy phantoms of a vain imagination, but possess an inner necessity and truth. The same law will be applicable to all other living organisms. (Von Goethe, 2009:104)

By engaging his artistic and scientific imagination, the concept of *Urplant* appeared to Goethe as an intuitive insight in a similar way to that of some other scientific discoveries (Strunz, 1993). The presence of some invisible set of laws or model behind observable phenomena is exactly what physical science seeks to find. Goethe did this for plants and shortly we will see that Smuts did this for evolution as a whole. Experiencing the intimacy between the outer phenomena and the archetypal model is what Goethe called ‘a holy prize’, and what Aristotle would regard as ‘finding the essence of’, which makes the whole more than the sum of the parts. Among others, the Irish theologian and Neoplatonist philosopher, John Scottus Eriugena, who lived in the 9th century AD, had already written about the intimacy between the manifest things of this world and the unmanifest presence that stands behind them (Carabine, 2000), but Goethe was possibly the first to explore an observational methodology for experiencing this in a manner compatible with current science.

Holistic thinking was originally expressed by Aristotle in his work on metaphysics. In book eight part six of *Metaphysics*, where he explores many examples of the relationship between the whole and the parts, he writes that wholes are ‘all things which have several parts and in which the totality is not, as it were, a mere heap, but the whole is something beside the parts’ (Aristotle, 350 BC).¹⁰ This idea is usually expressed as the whole is more than the sum of the parts. Aristotle points here to the idea that any existent entity will be made up of constituent parts but that the entity, the ‘whole’, will possess more than just the total capacity of the parts from

¹⁰ No page numbers are indicated in this text.

which it is constituted. Goethe expresses this 'whole' for plant life conceptually as the *Urplant*.

Neither Goethe nor Aristotle used the word holism. 'Holism' was coined by the South African Jan Smuts in his book *Holism and Evolution* (Smuts, 1926), which he finished while on a break from Parliament (he had lost the elections). Field Marshal General Jan Christiaan Smuts lived from 1870 to 1950 (Marquard, 2000). He only started school at the age of 12 years, but excelled in his education, becoming one of the top students to have ever passed through Cambridge University in England (Hancock, 1962). He returned to South Africa and later joined the South African War from 1899 to 1902 to fight against the British. He played a major role in South African politics for almost half a century, including being South African Prime Minister on two occasions.¹¹ His title of Field Marshal was bestowed on him through his efforts in helping the allied forces in both the First and Second World Wars. He played a major role in the formation of both the League of Nations and the United Nations (Hancock, 1962). He is not included in this work for any of these achievements, but rather because of his work on holism.

The theoretical details of holism as used in this thesis

In his work on holism, Smuts explores the work of Aristotle's *Metaphysics* and demonstrates several principles of how evolution always manifests its new creations as complete wholes made up of parts which in themselves are wholes of a different level or substance of evolution. These four significantly different manifestations of evolution he calls matter, life, consciousness/mind (referring to the sum of the elements of sensations, desires, thoughts, feelings and actions of mind], and personality. Smuts describes personality as our human capacity to undergo many experiences, to assimilate these and to 'grow' our self. He also describes it as our

¹¹ Smuts is sometimes thought to have played a role in the formation of apartheid due to some of his controversial and racist statements and actions. He was however the leader of the United Party that lost to the National Party in 1948, and it was the National party that introduced apartheid. In this thesis I will not draw on Smuts in any way related to his political life. I will only draw on his ideas related to holism as this is relevant to my theoretical framework.

growing self. In this way, personality is noun and verb, both the thing itself and the capacity to grow itself. In this thesis, I will often refer to personality as our Growing Self. He generally calls these four levels 'factors' of evolution, although he (Smuts, 1926) and Aristotle (350 BC) hint at the use of the word 'substances'. I describe them as substances in this work. Matter is usually referred to as a substance and since it is just one level of holistic reality, I argue that all levels deserve the same 'substantiality'. Smuts does not list energy as a separate substance from matter, but I regard energy as such due to it following different laws and its ability to move into and out of matter in relative freedom in the form of heat and light. In this thesis I will use five distinct substances within holism, those of energy, matter, life, mind and personality.

In the 'whole' of each human being, these substances of matter, life, mind and personality interpenetrate. To understand all aspects of ourselves, we therefore need to know physics (which studies energy and elemental particles), chemistry (which studies matter), biology (which studies life), law, psychology, sociology and ethnography (which study the elements of consciousness/mind) as well as autobiography and autoethnography (which study how personality constructs itself). These fields help us to know our basic laws of operation. The arts and religion would then be needed to grasp the creative, spiritual elements of our Growing Self. In the same way as the substances of the plant all follow the creative logic of Goethe's *Urplant*, Smuts acknowledges that although the laws of physics, chemistry, life and mind are operating in the human being, when the system is working properly, they are all working in support of the highest level of evolution, the human personality. The greater the degree to which personality can guide these 'lower' substances to serve its intentions, the more it evolves its own substantiality to become the true guide of the whole.

Smuts argues that without ideas of holism, our relationship to human reality, and in fact of all reality, remains fragmented with no possible whole or single grasp of it (Smuts, 1926). Prior to Smuts, Goethe had already been working on the relationship

between the parts and their whole and how important it is to study all aspects of reality to understand ourselves.

In 1790 Goethe published a book called *Metamorphosis of Plants* in which he outlined the scientific method of observation which allowed him to recognise the principle of how plants change their form as they grow (Von Goethe, 2009) (See Figure 2.1).



Figure 2.1: Sketch of a plant from page 7 of Goethe's *Metamorphosis of Plants*

Examining phenomena from different plants, Goethe recognised how within a single plant the leaf shapes change and develop from the bottom to the top as well as how, through a process of 'contraction' and 'expansion' of plant 'breathing', these forms metamorphose into the petals and stamens of the flower. His principle of metamorphosis preceded the idea of evolution and Charles Darwin acknowledged Goethe's ideas in his own work as mentioned in the introduction of the 2009 edition of Goethe's book (Von Goethe, 2009:xxiv). In *Metamorphosis of Plants*, Goethe hints at the distilled essence of plant which he calls the *Urpflanze* (Von Goethe, 2009:xvii), meaning the *Urplant*, primal plant or archetypal plant. In Goethe's *Theory of Colour*, he explains that this 'primordial and elementary phenomenon' is not just for plants, but the fruit of similar studies undertaken in different fields, as in this case in the study of colour (Von Goethe et al., 1840:71-72). This invisible archetype forms the guiding framework, the creative pattern-forming principle which he sees as

shaping all manifestations of plant life. He studied plants growing under various conditions such as on north- and south-facing slopes and individually or in groups. His observations became the basis for his experience of how this creative principle would enable individual plants to grow in the way required to maximise their growth potential. In physical science, this process usually results in a mathematical model or formula, but for life, according to Goethe, this results in a model, an imaginary picture which represents a set of processes and principles that all of plant life creatively applies. He thereby avoids the pitfall of reducing this *Urplant* into a purely mechanistic idea of an expression of plant genetic code and emphasises a living quality for our understanding of the manifestations of life itself.

In so doing, Goethe gave substantial reality to the 'inside' *Urplant* whose intimacy with the manifest 'outer' plant can be experienced imaginatively. Naturally, this requires that we use more skills than the purely observational and rational skills usually used in the science classroom. The very high percentage of Nobel Science Laureates who actively participate in the arts seems to point to the need for such faculties to give science its greatest achievements (Root-Bernstein, 2011).

In modern physics, the ultimate prize of finding a 'unified theory of everything' has been an unrealised striving for several decades. One researcher, James Wells, describes this unified theory as an ur-theory, and examines the multiple forces and fundamental particles of physics to identify the single presence, the unified theory, that lies behind these many phenomena (Wells, 2021). In this is reflected Goethe's approach of gathering many plant phenomena needed to conceptualise the *Urplant*. Interestingly, Wells (2021) uses a metaphorical picture of the many gods of polytheistic religions transitioning in this way into the conceptualising of a single God in the monotheistic religions.

Goethe's artistic relationship to the evidence presented through his many detailed observations led to an inner change in him, a living imagination of the archetypal plant that came through his own inner development. Smuts, although not going as far as Goethe in proclaiming holism in such artistic terms, refers to it as the

‘universal’ that ‘dwells in the concrete particular’ (Smuts, 1926:91). Smuts honours Goethe not through an acknowledgment of his work, but perhaps more highly as his key example of a human personality because of his enormous capacity to engage in powerful and wide-ranging experiences and to integrate them all into his healthy functioning Growing Self (Smuts, 1926:301).

Smuts’s book *Holism and Evolution* (1926) outlines several important factors that he sees as operative in the evolution of our world. One such factor is that as evolution progresses and new substances/levels of wholeness become manifest, they exhibit ever greater freedom in capacity and manifestation. An example of increasing liberation or freedom and reduced mechanistic or structural determinism can be seen in Smuts’s evolution from plant, with its highest substance of life, to animal, with its highest substance of mind. A plant’s response to its environment is determined by where it grows, whereas an animal can change its position to find a more optimal environment for survival. Within animal species, we can see the same operative factor between the cold-blooded reptile and warm-blooded bird. The internalisation of the capacity to generate its own warmth means that the bird can operate optimally at colder temperatures and therefore become more independent and liberated from the limitations of its environment. The Antarctic penguins are an example of this.

If we look at the leap in freedom and capacity of the human personality, we see an advanced use of created tools to overcome even the limitations of the physical body and to move without legs (in cars), travel under water, in the air or even overcome the limitations of the Earth environment and travel into space. One gift of this human personality that I am particularly grateful for is our capacity to preserve human thought, like a fossil record, in books, films and so on. Without this, I would never have been able to engage with the original ideas of these past geniuses.

Smuts’s (1926) understanding is that nature always evolves through the production of complete wholes, the parts of which are the substances of previous stages of evolution. In this way, the substance of energy emerged after the big bang which

led immediately led to the manifesting of matter. Matter evolved in ancient stars which eventually led to the conditions on Earth where life manifested. In like manner, mind/consciousness evolved out of and within life, and personality out of or within mind (Smuts, 1926). In *Holism and Evolution*, Smuts shows that we can imagine each new substance being born out of the previous one. He says that through this process the new manifestation will bear the stamp of reality given to it by the 'lower' but more perfected substances in such a way that, although it is an entirely different substance, equivalent patterns of manifestation and behaviour can be found in each. This is because the intimacy between the layers of substances allows for resonant behaviours such as those observed in the chemical and neurological activity that accompanies the sensory, emotive and cognitive experiences within mind.

Holism, like Goethe's *Urplant*, becomes a new, non-mechanistic operative factor guiding the creative and non-prescriptive manifestations of evolution beyond the two active factors of variation and natural selection recognised by Darwin in the evolution of living things (Darwin, 1859). Like his concept of personality, Smuts (1926) also sees holism as both verb and noun, as fundamental operative principle of evolution and bearer of the fruits from its work.

The concept of such an emergence of new substances had already been proposed by Professor Morgan, professor of Psychology and Ethics at the University of Bristol in 1922 (Morgan, 2013). Morgan's ideas were grounded on philosophical principles and on a rejection of the mechanistic principles of modern science. Smuts's holism accommodates the idea of emergence but not through a rejection of the mechanistic and structural principles of science. Smuts recognised that such mechanistic principles operate, but mostly in energy and matter.

Smuts (1926), after showing the emergent nature of mind from life, shows us in Chapter 10 that evolution has not reached an end, but that the current pinnacle of evolution, the human personality or Growing Self, is busy evolving and maturing. When it has reached a certain degree of maturity, if holism is truly a factor in

evolution as the *Urplant* is for plants, a new and very different substance will once again emerge. This can be seen metaphorically in how the flower with its new form, colour and scent arises from the green plant.

Approaches to holism

According to holism, all substances of reality manifest as new wholes with their own elements and operational rules and laws. The approach of some researchers to holism is to look at the underlying structures to find the boundary between the parts and the whole (Liu, 2014). The example Liu uses is that of the table, where we can look at it as a combination of atoms and molecules, a set of four legs and a slab or as a single entity in its own right. This thesis takes this approach only insofar as it will look at the possible dynamics involved in the evolution of personality that may lead to the manifestation of a new substance. In this study, the focus is mainly on the ontological aspect of holism, the fact that evolution has given rise to different substances as wholes and only partly on how this is achieved. Smuts (1926) himself does not investigate this 'how' but does mention that it will be most revealing if and when it is understood. Only in some small measure does the conclusion of my wreality in Chapter 7 speak to this 'how'.

Transdisciplinary theory helps us to understand that different layers of holistic reality are explained through different disciplines (Nicolescu and Ertas, 2008). Each subject offered at school and university explains the aspects of reality they focus on in the manner required by that discipline. To obtain an understanding between the disciplines, we need more than an interdisciplinary approach where each aspect of the whole is explained as though it exists independently of the other. Transdisciplinarity achieves this by looking for a picture or narrative that can capture multiple aspects of reality in harmony (Nicolescu and Ertas, 2008). This imitates Goethe's approach and has been used in the health sciences for over 30 years where a patient's background, ethnicity, nationality, vocation, age, diet, personal interests and so on are used to holistically conceptualise their condition and identify appropriate treatment (Davis, 1988).

Transdisciplinary theory also points to a transcultural, transnational and trans-religious picture of reality (Nicolescu and Ertas, 2008). Nicolescu looks for the ur-phenomenon that weaves common threads and stories of culture, nationality and religion into a meaningful and rich embrace (Nicolescu and Ertas, 2008). In this way, transdisciplinarity embraces the Renaissance man, the polymath who is gifted in multiple areas such as science, art and religion. An example beyond Goethe and Smuts of such a polymath is Georges Lemaître, the original bringer of the idea of the big bang theory which he called the theory of the primeval atom. Lemaître was a Catholic priest, cosmologist and a professor of physics who held that the two main ways of finding reality are science and religion, and, like me, he chose to follow both (Lambert, 2015). Transdisciplinarity, as promoted by Nicolescu, a Romanian physicist, is based on the idea that objective and subjective realities are multi-layered (Nicolescu and Ertas, 2008). His focus is on meeting the needs of modern life through the transformation of education by broadening the boundaries of acceptable knowledge within the learning environment. He argues that while studying a topic like the motor car one should treat it as a whole and use the various disciplines of physics, history, personal experience, socio-economics, engineering, urban design and so on to add more content to enable a rich and layered learning. Nicolescu's and Ertas's suggestion of broadening the boundaries of our current understanding of each subject is something with which I resonate in the teaching of science. Despite my clear identification of holism in Nicolescu's work, I have not encountered a reference within transdisciplinarity to the work of Smuts or Goethe.

Monism as implicit in my use of holism

My theoretical framework of holism includes the concept of monism. This concept is most clearly laid out by Steiner when he investigates matter and mind in Chapter 10 of his book *The Philosophy of Freedom* (Steiner, 1999). Steiner introduces monism in Chapter 2 in which he argues that although matter and mind may appear like a duality, they are simply two parts of a single entity in the human being. Like Goethe and Smuts, Steiner holds that all of reality is contained in the moment and that this reality can be fathomed through careful observation and the full use of our

human faculties. He argues that the idea of either matter or mind being the only reality, as is expressed in some forms of materialism¹²/physicalism (Korsch, 2016; Stenmark, 2017) or religion, is often an attempt to avoid the challenge that being a multidimensional being presents.

New materialism tries to give agency and active capabilities to matter (Gamble, Hanan and Nail, 2019). Karan Barad, a physicist who re-interpreted the findings of quantum mechanics to exclude energy as a primary substance, ascribes agency to matter for all activities that manifest through it (Barad, 2007). Although, like materialism/physicalism, it rejects the existence of all other possible substances, it is monist in its approach in that it ascribes to matter all forms of action in the universe including human speech and thinking (Gamble et al., 2019). The intimacy of matter with all action that incorporates physical bodies is an observable fact. The challenge that this performative new materialism presents to holists like myself is to give substantial motivation or reason for assuming that matter is not the only substance or active agent in the universe. Here, science comes to the rescue with evidence from quantum mechanics that there are at least three different substances, matter, energy/wave (against which Barad argues) and the non-manifest substance of quantum superposition (Heisenberg, 1958; Tegmark and Wheeler, 2001). Further, the evidence from studies on our expanding universe suggests that physical matter makes up only five per cent of our universe, with dark matter and dark energy forming the remainder (Perlov and Vilenkin, 2017). From here, it is not implausible to imagine that other independent substances must exist in their own right.

A major stumbling block for me with new materialism is the axiomatic rejection of consciousness existing independently of matter. The existence of God or the human being existing independently from a physical body is impossible if matter is given the agency for all the manifestations of consciousness as put forward by new

¹² Materialism is often referred to as the tendency of some people to value only material goods. In this thesis, only Marxist materialism, also called physicalism, is meant by this term, which refers to the practice of believing only in the material world and the findings through our modern scientific enquiry into matter and energy.

materialism. As I intend to show in my literature search into near-death experiences and reincarnation in Chapter 3 and from my own experiences in Chapter 5, I clearly hold that the human has the possibility of consciousness outside of the physical body. I therefore reject new materialism despite embracing the extraordinary capacity of matter to be a vehicle for the manifestations of energy, life, mind and the independent human personality.

I reject the reductionist view of new materialism in the same way that Aristotle rejected the views of some earlier philosophers that there is only one basic substance to the universe. Aristotle argued against philosophers who claimed that only one element was the primary substance of matter, such as Thales who believed that it was water (O'Grady, 1995). Aristotle declared that the four elements of earth/solid, water/liquid, air/gas and fire/plasma form the basis of material reality.

A type of monism that tries to resolve the tension of being a mind in a body by declaring the one as the only reality is not what is implied here. The monism of Goethe, Smuts and Steiner simply says that matter and mind form a unity, a single entity and that while we are alive neither is independent of the other. Goethe presents this as a recognition that what is outwardly perceptible (matter) is a reflection of its inner nature (life or mind) and vice versa (Von Goethe, 2009). Smuts presents this as a continuum of different substances which get added to manifest reality as evolution occurs. His holism is a monism which declares that all substances are manifest in a single human being and all are part of a single evolving universe (Smuts, 1926). Goethe, Steiner and Smuts all maintain that this approach gives us a framework for understanding reality that uses objective and subjective observations, clear thinking and artistic imagination to overcome the one-sided materialism in science and the romantic spiritualism or dogma in religion.

This approach to reality demands of the scientist to develop not just their rational and observational skills, but also their imagination and intuition. Like Goethe, it asks us to become both scientist and artist and, like Lemaître, to be both religious and scientific.

By embracing monist holism, I allow myself to use information from science in order to learn something about mind and vice versa. This implies that what is found in one substance, be it discovered through positivist science, religious texts or personal experience, can and should be examined using the other perspectives. This triangular cross-referencing of findings and experience allows for a rich layering in the formation of one's wreality. We already do something like this to the extent that we test our experiences using the two halves of the brain: the rational, logical left brain and the intuitive, creative right brain (Iaccino, 1993; Springer and Deutsch, 1997). The analysis that occurs with left-brain thinking deconstructs our experiences and looks at the integrity of each element. These elements are then reintegrated into whole pictures, now enriched with understanding and meaning through the creative synthesis activity of the right brain. This process takes place again and again in a back-and-forth drama as we gain new experiences and build our wreality and personality. This cross-referencing between left and right brain and retesting our findings with new experiences is fundamental to my wrestle for a holistic wreality. In this thesis, I do not use the notion of left-brain and right-brain thinking even though it helps to distinguish between the two fundamental ways in which we process information. Rather, I use ideas from the field of neuroscience which give us a detailed picture of brain functioning during specific mind processes.

Our analytical thinking breaks down our sensory experiences into constituent parts and then reconstructs these with meaningful concepts added to the phenomena in our knowledge creation. This mirrors the way in which our digestive system breaks down the food we eat, absorbs the nutrients, then reconstructs and places them as required by our bodies. This example of a mental process mirroring a physical process demonstrates the idea of Smuts that one holistic substance will influence and mimic the workings of another. Ultimately, this demonstrates the monistic nature of holism that although we can see the human being as a combination of substances, they are so intimately related that they form the monist 'oneness' that we experience as ourselves.

Within education, we are mostly concerned with the substances of mind and personality, the newest additions to evolution and those whose educational refinement and maturation depend on human activity. An educator will know that the child can be differently receptive to learning from one moment to the next. The formation of their identity is also something that changes from one moment to the next despite the child retaining the same memories and name. All reality, including our own identity, is in a constant state of development or evolution. The main tools that I have used as a teacher for working with my colleagues and students to engage with this ever-changing reality come from Carl Rogers and Marshall Rosenberg (Rogers, 1983; Rosenberg and Chopra, 2015). Both these men place their emphasis on recognising the wreality of each human being through the formation of what they call an 'empathic connection' by asking questions that allow each person to know that their feelings and needs are heard and respected. The responses of people to this approach helps to build trust and to recognise different elements within their personalities. Although both these men embrace a constructivist approach to education, which respects that each individual personality constructs their own wreality, Rogers, like Piaget, places his emphasis more on the individual (Piaget, 1967) while Rosenberg, like Vygotsky, places his emphasis more on the relationships between people (Vygotsky, van der Veer, Valsiner and Prout, 1994). I mention these elements here because the investigation of wreality can be done using well-designed tools that are non-invasive or perhaps better referred to as 'non-violent', as coined by Rosenberg. The scientific use of open-minded observation and open-ended questions enables the student to respond without fear of punishment or desire for reward, and allows them to respond honestly and to wrestle for their wreality with reflective and compassionate others. If we accept that the personality constitutes a unique substance, then these tools are fundamental to recognising and working with this 'young', ephemeral, diverse and transforming substance of our Growing Self.

The physical science worlds of energy and matter are probably the most stable and predictable substances in current world reality, which is why they offer us such a

sound basis for establishing fairly universal facts and knowledge. The religious world of stories for life-guidance also presents us with fairly universal principles, but these principles are given as guidelines for healthy development as opposed to the universal principles of the already manifest behaviour of matter and energy found in science. In this way, holism stands as a framework for understanding and contextualising these different, universally principled worlds and why the behaviour of matter is more manifest, evolved or perfected, while the human personality is still in a developmental stage.

Is there a case for the use of holism in a science teacher's autoethnography?

My wish to enrich the teaching and learning of science by broadening the scope of what we do in the classroom is not a new one. There have been several attempts to make science more 'human' by using the arts and religion. Such attempts include the romantic movement of which the American Henry Thoreau (Thoreau, 2015) was a part and as was the German movement to 're-enchant' or bring back a sense of mystery to science (Harrington, 1999). In the present day, one approach to enrich science education and make it more relevant to many learners is through the introduction of elements of indigenous or traditional forms of knowledge.

Many students' initial experience of feeling alienated when studying science seems fairly common. In South Africa, one researcher argues that initially students in the science classroom may experience 'parallel collateral learning' (Koopman, 2018:106). This refers to the student developing two separate knowledge streams that co-exist in their minds. The decolonisation of science usually refers to the perception that science is constructed from a Western perspective and that it should be integrated with the science inherent in indigenous knowledge (Abah, Mashebe and Denuga, 2015) or that it needs to be seen as a separate way of knowing (Khupe, 2014). With both these lines of thought, the hope is to enrich the learning of science and improve students' access to its concepts. To prevent parallel streams of knowledge, some people argue that we should scrap 'Western' science and start

again from the ground up (Schulz, 2016).¹³ Although this perspective could be accused of wanting to take humanity back to the Dark Ages by those who subscribe to a strictly positivist paradigm, I believe that this wish is an expression of the experience of a fragmentation in our relationship to the world through science. When science becomes a parallel way of knowing and remains non-integrated with the students' previous knowledge, this can interfere with their way of relating to the world. Furthermore, because of science's worldly empowerment, status and employment, it can feel like indigenous perspectives are not valued.

A recent example of resolving such a parallel knowledge problem is Robin Kimmerer's story of weaving her personal journey through science and indigenous knowledge as a botanist and Native American (Kimmerer, 2013). She describes her experience as a PhD candidate of realising how shallow she felt with her understanding of science relative to the intimacy and depth of her Native American traditional knowledge.

This experience was the beginning of my reclaiming the other way of knowing that I had helplessly let science supplant. I felt like a malnourished refugee invited to a feast, the dishes scented with the herbs of home. (Kimmerer, 2013:44)

As part of this 'journey home', she describes many verbs in her native Ojibwe such as 'to be a hill' or 'to be a bay' (Kimmerer, 2013:54-55). She recognised that the Ojibwe language saw all 'things' as verbs, as active and as experiences she could engage with subjectively as opposed to objects to be studied and 'used'. Her book is full of examples of her renewed connectedness to nature, herself and all of life. The key concept of the 'give and receive' reciprocity inherent in her relationship with nature, became for her an expression of this intimacy in all of nature. Kimmerer's

¹³ During the #Feesmustfall (a movement to make higher education free for those from disadvantaged backgrounds) protest period at South African universities in 2016, the University of Cape Town's Science Faculty met with the fallists to discuss decolonising science education. One fallist responded that current science should be scrapped and begun again from an African perspective. The relevant part of the video can be seen from 1 hour 10 minutes.

journey to enliven science through such a religious/indigenous approach is a well-articulated example of a current, holistic understanding that is possible by combining these two approaches. This correlates well with what Vusi AmaZulu Credo Mutwa strives to do in *Indaba my Children* where he presents a variety of Southern African stories with the intention of clearly expressing 'the way a Black man's mind works' in a way that the 'White' mind will hopefully understand (Mutwa, 1964:xvii).

Intimacy with nature and the laws of science can also be achieved using the ideas of multiple cultures and religions. According to the ancient Chinese idea of Taoism, the world is held in place by the balance between two opposing forces named the yin and the yang (Laozi, C600BC).¹⁴ These can be seen in science as the balance that is found in nature between many opposites in chemistry, such as acid and base oxidation and reduction, the positive and negative poles in electricity, and north and south poles of magnetism in physics. The New Zealand Māori legend of how Mother Earth and Father Sky were originally together and how they were separated by their children¹⁵ is another picture of the creation and maintenance of our world through the balance between opposing forces (Royal, 2005). In Hinduism, there is also the concept of Father Sky and Mother Earth and these stories can be used to stimulate and enrich the experience of the students while learning science (Singh, 1993). Teaching holistically presents no reason to exclude these ideas while teaching electricity, and the Māori story is particularly fitting as the Māori God of Thunder, who tries to bring his parents back together, shows himself in the lightning bolt or spark.

Another pair of opposites can be seen in stable stars, which are an example of the Taoist balance between the gravity, which pulls the star inwards, and energy, which expands it outwards with a force of thermal expansion. The use of sensibly formed

¹⁴ The foundational book of Taoism written over 2500 years ago.

¹⁵ Māori creation story says that Ranginui and Papatuanuku were the parents of the world much like the Taoist idea of the origins of the world through polarities.

imaginary pictures using religious or indigenous knowledge to enrich the outer observations would be welcome in a transdisciplinary, monist, holistic ontology.

In an autoethnography, we examine the relationship between the individual and their world or ethnographic environment. These two also act as a Taoist pair which are intimately connected in a mutually enriching or destructive relationship. We can imagine individual personalities as the driver of change to the ethnographic world while growing from its nutrients and suffering its limitations. It is this relationship that an autoethnography examines from the environment within which the personality lives. The autoethnographic elements that I focus in on this study are those related to the prevalent ideas and practices within culture, religion, education and science, as they present the most powerful influences on my life and as a science teacher. Using the holistic thinking of Smuts (1926), when this autoethnographically studied Growing Self is sufficiently evolved, yet another substance may manifest within holistic evolution. What this might be is addressed in this study.

Conclusion

The concept of holism as it is used in this thesis is twofold. On the one hand, it recognises the independent substantiality of energy, matter, life, mind and personality, with each being comprised of different elements and operating out of its own laws according to its archetypal- or ur-model. On the other hand, it recognises that the intimacy between each of these substances is such that they can be seen as a monist oneness. Goethe explains this oneness as:

With any given phenomenon in nature — and especially if it is significant or striking — we should not stop and dwell on it, cling to it, and view it as existing in isolation. Instead we should look about in the whole of nature to find where there is something similar, something related. For only when related elements are drawn together will a whole gradually emerge that speaks for itself and requires no further explanation. (Von Goethe et al., 1840:paragraph 228)

When studying manifest phenomena, holism challenges us to be both artists and scientists and to develop not only our accuracy in observational and thinking skills, but also our intuition, intimacy and relationship skills. It therefore demands of us to take all aspects of our inner life seriously and draw not only on the traditions of science, but also on those found in indigenous culture, the arts and religion. It asks of us to develop our imagination in a disciplined and ordered way so that our creative intuitive faculties can bring about the insights required to build our wreality in a way that requires no further explanation.

My study looks at many experiences from my life's journey. These stories will initially be analysed to mine as rich a data-set as possible. They will then be re-examined as a combination of objective and subjective facts for our imaginative, artistic, scientific and religious faculties to find some ur-phenomena. These findings will be integrated into my wreality and other findings in this thesis. A more complete description of how holism is applied in this study will be addressed in Chapter 4.

This chapter began by presenting my theoretical framework of holism as a combination of the thinking of Aristotle, Goethe, Smuts and Steiner. This presentation has resulted in a picture that the reality of any moment is a monist oneness that can only be understood as a combination of many substances working to serve the whole. The operating principles of this whole can be imagined as an archetypal being or model as exemplified by Goethe's *Urplant*.

This holism was then clarified through its relationship to many related and conflicting concepts, and its suitability to be applied in autoethnographic and educational contexts was briefly explored.

The chapter that follows contains many different elements which may initially seem disconnected but are needed as separate 'parts' to understand various experiences that I have had and which I use to construct the 'whole' of my wreality.

Chapter 3

Literature Review

Introduction

A literature review can be represented as a group of learned voices discussing a topic with each voice offering its own perspective. A literature review is needed so that the research being undertaken can find its place within existing academic knowledge. Prior to forming a review, the researcher must first do a search of the existing literature using topics and keywords related to one's study. The author then logically orders these learned voices and presents them as a story that can address their research topic and questions.

When conducting this literature review, I initially searched broadly through books and on the internet for ideas relating to the data of personal experiences that I will share in Chapter 5. When I found something that I believed was related, I conducted a Google Scholar or University of Pretoria library search for further books or peer-reviewed articles that spoke to my experiences within the fields of perception, science, religion, holism, reality, autoethnography and/or science education. Only once an extensive search had been conducted did I decide upon a review structure. I periodically returned to search the literature when I became aware of gaps in the story that I wished to tell in this review. The literature that spoke directly to holism and my research questions was reviewed in Chapter 2. The literature related to autoethnography as a methodology is presented in Chapter 4. The literature related to the other above-mentioned themes is given here.

I built my holistic wreality from my life experiences, including some which may seem random and unusual, and so have structured this chapter in a manner that demonstrates this. This chapter will present literature voices on common and unusual experiences, reflecting Goethe's inspiration that we should search all of nature for striking and related ideas so that a whole can gradually emerge (Von Goethe et al., 1840). These voices represent various perspectives on the nature of

reality that are brought into conversation with my autoethnography in Chapters 6 and 7. This literature review takes a thematic approach as opposed to the historically ordered chronological approach used in the presentation of my autoethnography in Chapter 5. The structure of this review matches the Smuts evolutionary progression from energy to matter, life, consciousness and personality (Smuts, 1926). Smuts traced the evolution of substances in the universe as the emergence of wholes, and because his holism is used as the theoretical framework of this thesis, my review will proceed in this order.

The first three sections of this literature review present some of the many ways in which humans perceive and understand the elements of reality that are pertinent to this study. These sections begin with a review of the scientific literature on the use of our physical senses to detect matter and energy. From here, literature from some religious texts is used to expand on how our mind and personality are encouraged to process these sensations. Some known but relatively uncommon perceptions that are relevant to this study are then added, forming a broad base for my wreality. After this, I look at some researched ways of understanding reality. Due to the lack of peer-reviewed or scholarly literature on some aspects that will be presented in this chapter, I have made much use of grey literature in this thesis, that is, literature that has not been published through scholarly channels (Cooper, Marsolek, Riegelman, Farrell and Kelly, 2019). The grey literature used here is mostly non-scholarly books and personal testimonies that I have found on the internet.

The final two sections of this chapter review literature relate to science, religion, education and autoethnography, four of the major themes mentioned in the title of this study. The chapter ends with autoethnography as an expression of personality in its relationship to its environment (Smuts, 1926). It is at this point in the chapter where I examine some science teacher autoethnographies to identify aspects that are relevant to this study as well as where the silences are, thus identifying the gap in the literature that this study hopes to address.

Human perception: The gateway to knowing reality

Physical senses: A portal between Goethe's outer and inner worlds

Without our physical senses, we would not know anything of the physical world around us. We get to know the physical world because life has given us senses that can detect some of its elements. In this section, I review scientific and religious literature about perception to argue that our senses demonstrate the holistic, monist intimacy between the outer physical stimuli of energy and matter and the inner metaphysical sensations within consciousness.

The senses that we use the most in science education are sight and hearing. These senses rely on light and sound waves. For many years light has been perceived as a very complex form of energy and matter in a wave/particle duality (Clauser, 1974; Henriksen, Angell, Vistnes and Bungum, 2018; Säljö and Bergqvist, 1997). Simply put, light is thought of as an electromagnetic wave that enables us to see objects when it strikes the rod and cone light detectors in the retina at the back of our eye (Lamb, 2016). Sound, on the other hand, is waves of compression and expansion/rarefaction that pulse through matter (air, liquid or solid) and move the eardrum and stereocilia (tiny hair-like structures) in the inner ear cochlea, resulting in us being able to hear (Ashmore, 1989; De Boer, 1991). In both seeing and hearing, we have energy in the form of waves or vibrations entering our well-adapted senses, which receive these signals and translate them into nerve impulses, which then move to the brain. In the brain, these impulses become the source for the mind to experience the sensations of sound and light.

Our senses of smell and taste are not based on waves but on molecule shape and bonding structure that stimulate chemo-receptors (Zarzo, 2007). These chemo-receptors send signals to our brain and this results in the experience of a particular flavour or smell. Our intestines have these same chemo-receptors which our body uses for purposes other than taste as we are not conscious of the taste sensations that come from there (Kaji, Karaki, Fukami, Terasaki and Kuwahara, 2009).

The experience of temperature in our sense of touch relies on the speed with which particles move or vibrate. In the case of cold, it is our sense of touch detecting that the cold object has particles that are vibrating very slowly. The fast vibrations of our skin molecules are transferred to the cold object (Sparrow, 2018). Sensors in our skin detect these changes in vibration and send relevant nerve signals to our brain which are then translated into a temperature sensation. With all the information we gain through our senses, some behaviour of matter or energy is taken by our nervous system to the appropriate part of the brain and we then experience the relevant sensation.

Possibly the first philosopher to consider the idea that outside the body is just waves and vibrations, and that the body enables a conscious experience of these as sensations of sound and light, was Eduard von Hartmann in 1889 (Von Hartmann, 1914). His work was possibly based on that of Johannes Muller, a German physiologist who, in 1835, examined the results of stimuli to the nerves connected to sight and found that there is little difference in whether you use light or physical pressure to stimulate the optic nerve, the result is an experience of light for the mind (Bridges, 1912). This finding led Muller to understand that it is the interpretation of the stimulation to the optic nerve in the brain that creates the sensation of light and not the light waves themselves. Macpherson (2013) argues that various philosophers who have debated the nature of our perceptions have adopted the view that the mental images formed in the mind are created by the mind as a kind of hallucination related to what the senses have brought in. After these nerve stimuli have become conscious sensations, more neurological activity enables us to develop a recognition of what we are perceiving.

A study of light and sound is undertaken in South African schools within the subject of Natural and Physical Science, particularly during the last three years of high school. On the subject of light, the South African CAPS-Physical Science curriculum gives a great deal of information on electromagnetic wave frequencies and wavelengths (Department of Basic Education, 2011). The curriculum tells us that sound comes from longitudinal waves vibrating the air within the audible frequency

range (Siyavula, 2002). At no point are the sensations of colour, light, sound or the quality of sound ever mentioned. A creative teacher may demonstrate the harmonious wave shapes of pleasing sound and the jagged patterns of discordant sound on an oscilloscope, but this is not expected in the curriculum. Creative teachers aside, the South African school science curriculum appears to be deaf and blind to sound and light.

The sensations of sound and light seem to exist only inside the living being that experiences them. I argue that this analysis of the senses shows that the outer world of stimuli and the inner world of sensations belong to different Smuts's substances (Smuts, 1926), and yet, as Goethe suggests, the two are experienced as intimately linked (Von Goethe et al., 1840). Furthermore, I argue that what has been overlooked in the literature is that we do not experience sensory sensations as though they take place inside our brain. Our experience shows that an object is seen to be out in the world where the stimuli come from as opposed to being sensations that we experience as occurring within our brain. In this way, the inner sensations join with the external stimuli and they become indistinguishable from each other unless we give it our close attention. It is such a strongly developed human habit to link the physical stimulus to our experienced sensation that we may easily overlook that it is only molecules, waves and vibrations that our senses detect and that light, sound, warmth or smell are experienced only inside of us.

Kalat (2015) noticed that some studies on seeing and hearing have focused solely on the mechanics of what happens until the nerve signals reach the brain, while recognising that the experiences of sound and colour belong to the observer. Some scientists see the senses as a portal through which the outer world of objective fact encounters the inner world of subjective experience and illustrate how sight really works as a combination of energy, matter, life and mind (Eagleman, 2015; Morus, 2006). Eagleman is a neuroscientist who has looked at how the brain responds to sensory stimuli (Eagleman, 2015). Morus, on the other hand, relates how several natural philosophers of the 1800's – natural philosophers being the name for scientists at the time – perceived the eye as the gateway between the outer and

inner worlds of ‘matter and spirit’ (Morus, 2006:101), and used optical illusions to investigate the operations of each. I created Figure 3.1 below to show how our senses form the portal between these inner and outer worlds. The crossing of connecting lines at the bottom of Figure 3.1 are to indicate the hard-to-distinguish, monist, holistic intimacy between the stimuli and our sensations of smell, taste, heat and texture. This figure illustrates the dynamics of the Goethean oneness of the within and without of sense experience (Von Goethe et al., 1840).

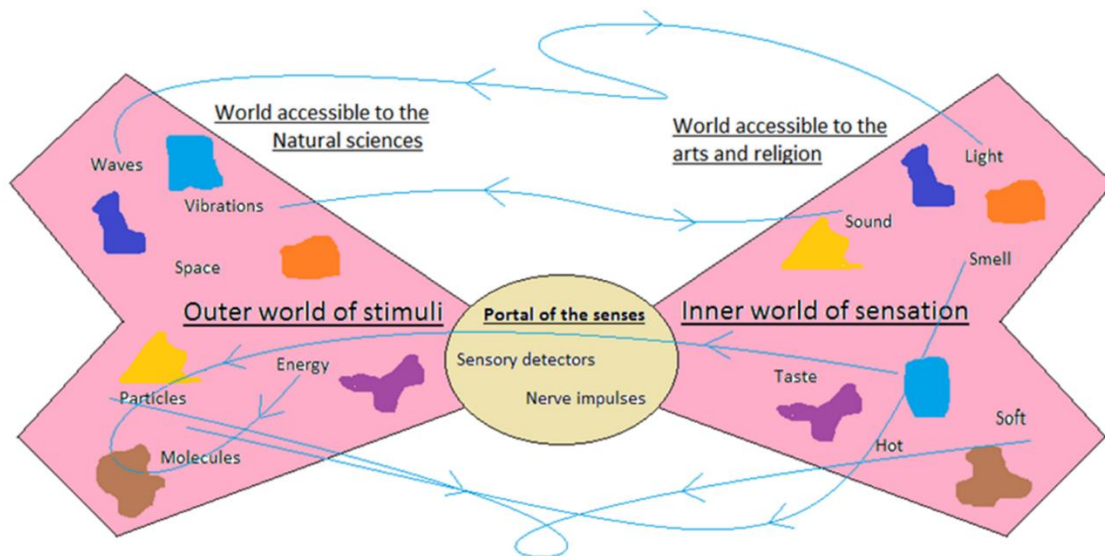


Figure 3.1: The monism of intimacy between the outer stimuli and inner sensations as experienced through the senses

Machines, like mobile phones, are able to detect sound and light waves but there is no way to experience sound or light except through the portals of working ears and eyes (see the movement through the senses to the right-hand side of Figure 3.1). This leads to the idea that our sensations of light and sound are, in fact, metaphysical, existing beyond pure material reality as elements of the substance of consciousness/mind. I argue for the metaphysical nature of our sensations, and hence the independent substance of mind, because there is no manner in which we can demonstrate the presence of sensation or mind outside a living body.

There are many stimuli in the outer world for which we have no senses, like x-rays and ultrasound, which machines can detect. Some theorised substances, however,

like dark matter and dark energy, have yet to be directly detected, meaning that theoretically around 95 per cent of the universe is still invisible to us (Perlov and Vilenkin, 2017). In this next section of the review, I follow the metaphysical sensations into the further metaphysical elements of mind using religious texts.

Religious guidance for processing sensory impressions

Having followed a scientific approach to this point, I now review religious textual references related to our senses.

Therefore speak I to them in parables: because they seeing see not; and hearing they hear not, neither do they understand. (Matthew 13:13)¹⁶

This quote refers to why Jesus spoke in stories or parables to his followers. I assume that he means that even though the senses of those he is addressing work well and that the outer stimuli are reaching the ear and eye and the relevant sensations of sound and light are happening, within their mind or mental activity they are not following the information attentively with reasoning. Their lack of attention will lead to them not being able to gain an accurate impression of reality, nor will they then be able to rationally process what is being said and gain understanding. Here we have information about the inner workings of the mind which are accompanied by neurological processes in the body. This saying encourages the Christian faithful to think like scientists by examining and gaining an understanding from what they see and hear.

In the Qur'an, we have a slightly different quote, 'when the Qur'an is recited, then listen to it and pay attention that you may receive mercy' (Qur'an, 2013:7:204). In this case, it is not just understanding that is gained, but mercy. This indicates that the meaning of the content in the Qur'an can result in not just understanding, but that this understanding may bear the quality of mercy, comfort or forgiveness.

¹⁶ All Bible references are from the King James Version (Holy Bible, 1611)

The following quote on the same topic is from the Hindu Bhagavad Gita.

While concentrating on objects of the senses a person develops attachment to the sense objects; from attachment desires are born, from desire anger arises. From anger delusion occurs, from delusion bewilderment of memory, after forgetfulness of memory the loss of spiritual intelligence and losing spiritual intelligence one perishes. (Bhagavad-Gita, 1998:2:62-63)

All three quotes address human mental activity. They comment on comprehension, emotional and/or behavioural responses and responsibilities from what the senses receive. These scriptural texts show how religion guides us where to mentally position our focus and attention from our sensory stimuli and sensations. They all share the same attitude to the senses in that their interest is not on what the eye, ear, mouth, nose or hand receive, but rather on our inner relationship to what is received. In each case the advice is roughly the same and point to Jesus's saying, 'The light of the body is the eye: if therefore thine eye be single, thy whole body shall be full of light. But if thine eye be evil, thy whole body shall be full of darkness' (Matthew 6:22–23).

The above quote distils the religious perspective that it is important to exercise discipline, attentiveness and reason in our inner attitude to what is received by the senses. When this is done by our personality/Growing Self, it will give the light and inner-liberation of insight, love, compassion, mercy and understanding. If not managed, it may lead to the darkness of inner confusion and potentially reacting to sensory input as an undiscerning and desirous consumer. These religious texts imply that there is also light in reason, understanding and managing the desires that may arise from what we experience. In science, we look at stimuli as elements of matter and energy. In religion, we are guided to a variety of elements of mind and how the personality/Growing Self can develop a healthy relationship to them.

Our senses form a portal between outer stimuli and inner sensations. Could it be that the processing of these sensations through proper attention and reasoning is

another portal, one that leads to the light of understanding, mercy and healthy living? If so, how many other portals are there? And how many inner, mental levels of reality are there? Using the literature of science and religion in the way presented here, I argue that a progression from addressing the content of the outer world of scientific objective facts or proof to the inner religious world of mental processing and spiritual health represents a progression from the substances of energy and matter, through life, to elements within mind and personality.

The above presentation indicates that the use of our rational faculties are not only required by positivist science but were originally encouraged by religion. The promise of an enlightened state that will be gained if 'thine eye be single' (Matthew 6:22-23) is within religions in one form or another and will be referred to in the creation of my wreality later in this study.

Holistic observations on our senses, natural order and reason

Some information on our senses and faculty of reason shows how aspects of holism may be found in evolution. The sound frequencies we can hear and the light frequencies we can see or feel as radiant heat are the abundant frequencies in our environment. Apart from light waves, there are other electromagnetic waves like x-rays and radio waves, but only 10 per cent of the electromagnetic spectrum on Earth fall outside the range of what we can feel or see (Fu, 2003). The evolution of our senses has, therefore, found ways of internalising the most abundant of light stimuli into conscious, metaphysical sensations of warmth and colour.

Recognising how life has enabled the intimacy between the outer stimuli and the inner sensation, some philosophers have pondered the evolutionary origins of our faculty of reason. Cooper, a professor from the University of California, takes a reductionist view through philosophy and biology and sees biology/life as the bearer and primary source of logic (Cooper, 2003). Cooper's idea that biology is the source of reason may be seen as our faculty of reason being the equivalent inner sensation to the outer logical lawfulness in nature. Penner approaches this question from a Christian perspective and says, 'Humans are rational insofar as they participate in

the rationality – the logos – that inheres in the cosmos. ... rationality explains it (the universe) according to the reasons with which it is imbued' (Penner, 2005:21). Within the above thinking, we find the Goethean principle of 'what is within is also without' (Von Goethe et al., 1840) and the Smuts idea that each substance of evolution demonstrates the same principles in accordance with its own nature (Smuts, 1926).

Our faculty of reason, seen as a reflection of the lawfulness in nature, becomes metaphorically our sense organ for perceiving logic. The trained organ of thinking is used to establish our unbiased and therefore accurate perception of the laws and operating principles of manifest nature. Goethe's concept of the *Urplant* takes perception a step further through the addition of an unbiased use of artistic imagination to perceive yet another layer of reality behind/within the manifest physical world (Von Goethe, 2009). If this is true, then it is possible that some organs of perception may not be easily identifiable like ears or eyes but found as processes akin to thinking and feeling.

Unusual but not uncommon sense-free perceptions

It may be that we possess some organs of perception that do not perceive things of the physical world, but of a world akin to Goethe's *Urplant*. This section looks at two such possibilities whose relevance to this study will be found in conversation with my autoethnography presented in Chapter 5.

Near-death experiences

One set of experiences where people describe a blessed or enlightened state such as described in various religions, is when they are close to dying or die and later return to their bodies in what are called near-death experiences (NDE). Two people who have had NDEs have shared their experiences with me. These stories will be related in my data section as they have been incorporated into my wreality. Here, I will review research into NDEs.

George Ritchie, in his book *Return from Tomorrow* (Ritchie and Sherrill, 2007) was my first encounter with a well-documented personal account of NDE astral travelling – travelling around in the physical world as a disembodied spirit. During his NDE, Richie describes an encounter with a Being that he calls Christ and which changed his life.

Research into neurological activity of people while experiencing NDEs, shows temporal lobe activity similar to that of epilepsy except that the activity seems to be exclusively in the left temporal lobe and is not associated with any dysfunctional causes like from drug abuse or effects like disorientation or disconnection (Britton and Bootzin, 2004). On the contrary, NDEs seem to be associated with positive experiences and coping techniques. Roughly five per cent of the world population are believed to have experienced NDEs or near-death-like experiences (NDLEs), which are the same as NDEs except that the person is not near death (Facco and Agrillo, 2012).

Richie, similarly to others, perceived our physical world and went astral travelling around the countryside to places that he had not been before, but which he recognised once he was well again and physically travelled there. Many people who have experienced NDEs report floating above their bodies and seeing themselves and others from above (Moore and Greyson, 2017). In each case, Moore and Greyson explain, the memories of these experiences are always more detailed and clearer than what would be usual for dreams, and they often have long-term, positive, life-changing effects.

Many people who experience NDEs express the wish of wanting to remain in the other world. This is apparently fairly common and, although the following are not part of academic literature but rather grey literature, in two YouTube testimony videos, a medical doctor (Neal, 2019) and a Vietnam War helicopter pilot (Gardipee, 2014) both describe this experience, as well the experience of being rejected from that world to find themselves back in their bodies. Both these people who describe

their NDEs had the experience of alternately seeing things of the physical world and seeing things of another world.

There is a reasonably strong likelihood that NDEs or NDLEs have led to the formation of religious ideas or aspects of some minor and major religions for many centuries (Shushan, 2009). Shushan was previously a researcher at University of Oxford's Ian Ramsey Centre for Science and Religion and explored various historical stories across many cultures and religions over the ages. He found these stories to contain enough similarity and variety to conclude that their probability of being fabricated is highly unlikely. This is due to the vastly different ideas prevalent in the different cultures and ages he examined. His emerging idea of the nature of the other world, which he calls the spiritual world, is born out of these varied stories, and they correspond strongly with the experiences of blessedness and love-filled-light in NDEs.

Research into NDEs is not easy to test, as they fall firmly into the realm of subjective proof. In a book titled *Imagine Heaven*, the author has gathered personal NDE accounts and interpreted them from a particular religious point of view (Burke, 2015), making the obtaining of factual evidence challenging. In academic literature, NDEs are usually tested against outer facts that could not have been known in any way other than if the subject had travelled in a body-free state. A substantial amount of research verifying such cases has been done at the University of Virginia in the United States of America (Greyson, 2021). Among the team of researchers at the university's Centre for Perceptual studies is Emily Williams Kelly, who in 2018 researched rare cases of terminal patients who, shortly before they died, had revived or awoken from being unresponsive for a long period of time (Tom Tom Foundation, 2018). She also relates cases of deathbed visions, where patients experience the presence of relatives or friends who had passed away. There are also cases of family members sharing bedside visions with the dying patient (Tom Tom Foundation, 2018). These shared visions may be related to synaesthesia, mirror neuron activity or quantum entanglement which will be discussed later in this chapter. Another member of the team at the University of Virginia, Jim Tucker,

studies cases where young children relate stories containing memories of having lived previous lives. Tucker refers to such stories as possible evidence of reincarnation.

Reincarnation

Related to NDEs, in that they show the possibility that humans may have a life outside of living in a physical body, is reincarnation, the possibility that we have lived in a different body as a different person at a different time. Reincarnation is a widely held belief in the major Eastern religions of Buddhism and Hinduism (Dillon, 2003), and although I have not found any direct reference to it in the Old Testament, reincarnation is apparently well accepted in Judaism (Pinson, 1999).¹⁷ Modern Islam does not seem to have an established relationship to reincarnation and yet Rumi, the 13th century Islamic scholar Rumi Jalal ad'Din, insinuates one within a holistic evolutionary framework in his poem titled, 'I died as mineral' (Rumi, 2005).

I died as mineral and became a plant,
I died as plant and rose to animal,
I died as animal and I was human,
Why should I fear? When was I less by dying?

Christianity seems to be the first of the major religions which rejects the idea of reincarnation and has replaced it with the idea of the uniqueness of each individual and their resurrection to an eternal life in heaven or hell (Malkovsky, 2017). The cultural worlds out of which Christianity arose are Judaism and Ancient Greece, both of which accepted reincarnation (Irwin, 2017; Pinson, 1999). Despite the rejection of reincarnation in Christianity, a reading of the New Testament Bible may present a possible case for it.

In Matthew 17:12-13, Jesus tells his disciples that Elijah has already come and his disciples realise that he is talking about John the Baptist, as foretold in Malachi 4:5-

¹⁷ This was conversationally confirmed by my rabbi brother on Sunday 2 of February 2020

6 of the Old Testament. This seems to indicate that John the Baptist is the reincarnation of Elijah although many Christians do not understand it this way (Valea, 2002).

The scientific research that I encountered conducted in the West into reincarnation began with Ian Stevenson in the 1960s, where he reviewed over 40 cases of children who presented memories of possible previous incarnations (Tucker, 2008). Tucker researched many further cases, including a particularly detailed case of a young boy called James Leininger (Tucker, 2016). This case is also covered in a short documentary in which he and his parents are interviewed (Lang, 2010), presenting details of his recollections. James's parents were initially worried about their son, but once they began investigating the details of his story, they found evidence which they regarded as convincing for what James could recall of his life as a pilot in the Second World War, even finding living people whom he had known during that past incarnation.

Most cases of reincarnation that seem to present evidence of previous lives are of children who have reincarnated fairly soon after their previous life, with over 2 500 cases having been examined (Tucker, 2008). There are no cases of children recalling incarnations of being an animal, as is sometimes believed, but there are many cases of children recalling having been the opposite sex in a previous life. All this is relevant to my study as it shows possible evidence of a life independent from the physical body moving from one incarnation to the next. It also logically leads us to think that there is possibly a place where such beings exist, despite none of these cases having had recollections of experiences from within another world from their time between incarnations. For information on this other world, we need to rely on people's accounts of NDEs and NDLE's which almost unanimously describe the comforting and blessed experience of its light and warmth.

My study does not have any story directly related to evidence of reincarnation, but rather to finding karmic subjective evidence leading to reincarnation (Steiner, 1974). Karma, in the way that I use it, can be understood as a force of justice that inspires

a person to embark on certain actions in one life. Karma is the inner impulses that drive us to fulfil certain duties to the world as a result of actions in a previous life. My autoethnography uses my stories to identify driving impulses in my life for which I can find no outer influence. Human biological forces and the influences of our environment or education (Kitayama and Salvador, 2017) are usually the only two influences that are understood to shape our lives. These influences are commonly referred to as nature and nurture. Including karma into this duality would affect the way in which we understand our lives and form our wreality.

Synaesthesia

Research into brain function has been conducted in the last 30 years (Cynader, 2013) has led to a rich knowledge of the neurological activity associated with how our mind works. Synaesthesia, where a person experiences a sensation for which the specific outer stimulus is missing, is one of these studied brain functions.

Brain changes occur not only during childhood physical growth and development (Cynader, 2013). Our brains remain plastic, that is, changeable, throughout life. In part, these findings come from research done on measurements of changes to the brain mass of people undergoing music training at different ages (Hyde, Lerch, Norton, Forgeard, Winner, Evans and Schlaug, 2009).

One area of the brain that seems particularly plastic is the corpus callosum, the part that joins the two hemispheres together. In tests with high potency marijuana users, it was found that the corpus callosum shrinks. This shrinkage was found when certain users with first-episode psychosis were tested against a sample of mixed high potency users and non-users of marijuana (Rigucci, Marques, Di Forti, Taylor, Dell'acqua, Mondelli, Bonaccorso, Simmons, David and Girardi, 2016). Rigucci et al. found that there was little to no difference between the damage done in the users who had a psychotic episode and those who had not, but this damage was measurable against non-users of marijuana. The conclusion was that the damage restricted communication between the two brain hemispheres and may account for the psychosis from the drug use. On the other hand, the corpus callosum of those

who undergo music training grows much bigger and becomes more dense (Hyde et al., 2009).

When learning to use our senses, and even once we have become well established in the use of our senses, we use the data from one sense and cross reference it with the data from other senses in order to confirm our understanding of what we are experiencing (Eagleman, 2015). Synaesthesia is a neurological concept where certain individuals not only cross-reference the stimuli from the outer world, they experience multiple sensory sensations from the stimulation of a single sense (Fisher and Tilot, 2019). Experiences of seeing numbers or letters as specific colours is one of the more common forms of synaesthesia, but there are many others.

Mankin (2017), who reviewed research into synaesthesia, found that some studies suggest that synaesthesia may take up parts of the brain that should be used for other purposes, potentially limiting aspects of cognitive function. The bulk of evidence found by Mankin, however, shows that synaesthesia does not replace or limit any one function but rather adds to the connections made in the brain as a result of the stimulus (Mankin, 2017). Synaesthesia has also been linked to certain cognitive and perceptual advantages as well as an increase in certain anxiety disorders (Carmichael, Smees, Shillcock and Simner, 2019). It is more common in children than in adults, but synaesthesia can continue into adulthood (Fisher and Tilot, 2019). This research is in its early days, but current indications are that between one and two per cent of all people have some form of synaesthesia (Carmichael et al., 2019).

I became aware of synaesthesia when my daughter first tasted chocolate at the age of one or two. As she put the chocolate in her mouth she closed her eyes, raised her arms lightly rubbing the tips of thumb and fingers together and rotated on the spot. I recognised that tasting the chocolate had stimulated a connection between

her sense of taste, her sense of movement in her whole body and her sense of touch at the tips of her fingers.¹⁸

One strategy used to help blind people form mental images of shapes and colours uses technology to convert outer images into a soundscape which the patient learns to decipher (Abboud, Hanassy, Levy-Tzedek, Maidenbaum and Amedi, 2014). Although this is not synaesthesia in the usual sense, it is noteworthy that therapeutically, sound is used to develop a simultaneous stimulation in the visual parts of the brain.

Mirror neuron activity and telepathy

Other than synaesthesia, a neurological activity that gives rise to sensations that do not originate through the usual physical stimuli, is mirror neuron activity. Scientists believe that mirror neuron activity is responsible for birds and mammals learning how to perform an action through watching others doing it (Heyes, 2010; Saby, Meltzoff and Marshall, 2013). As animals observe the action, their neurological activity imitates that of the other animal, enabling them to do it on their own. There are many commonly observed phenomena where this would apply, such as fledglings learning to fly by observing the mother bird. Evolution seems to have enabled learning to take place as a neurological mirroring of the behaviour of others. In this way many animal species learn behaviours from their parents and social community. Research has identified mirror neuron evidence in song-birds and primates, including humans, but it may be active in all vertebrates or warm-blooded animals (Miller, 2008).

Mirror neuron activity is not just for learning new skills. Emotions and thoughts can also be experienced through mirror neurons, helping in the development of social behaviour (Cook, Bird, Catmur, Press and Heyes, 2014). This is not to imply that the individual experiencing the mirror neuron activity does not have the possibility

¹⁸ In closing her eyes, I also imagine that she was wanting to use all her sensory processing capacity to experience the chocolate and to not let that be interfered with by needing to process new visual stimuli.

of responding in creative or alternative ways to the mirrored observations, it is simply that the observer has a neurological experience that enables them to understand the experience of the other (Cook et al., 2014). The fine movements of facial gestures in our human interactions with others produce mirror neuron effects to help us know what they are experiencing with empathic understanding (Eagleman, 2015).

Some scholarly research on interspecies communication between humans and animals has been published, and, although it does not mention mirror neuron activity, some double-blind experiments have been examined by Erickson and found to reveal statistically significant results. Erickson describes this type of telepathic communication as 'intuitive information transfer' (Erickson, 2011:150) which is possibly as a result of quantum entanglement, a concept that will be reviewed later in this chapter. Literature on interspecies communication between animals and humans that is related to mirror neuron activity does not seem to be well researched in academia, so I turned to the grey literature for personal accounts.

An example of possibly using mirror neuron activity to be sensitive to the neurological activity of other species is a woman who claims to be able to communicate with wild animals (Breytenbach, 2015). Breytenbach came to my attention when I visited a wild animal reserve near Plettenberg Bay, South Africa. A black leopard in their care had been a very difficult animal until they changed its name from Diablo (devil) to Spirit. The ranger mentioned Breytenbach's role in this transformation, and that she had mentioned details about Spirit that she did not know, but which they verified later from the leopard's carers. Breytenbach describes the way she learns from animals, 'Not as instruction, not as advice but by sheer resonance' (Breytenbach, 2015). She describes how, by connecting with nature in this way, we become not only more able to communicate accurately with animals and plants, but we can become more fully ourselves. This evidence is in the realm of subjective proof for us as much as it is for Breytenbach, who herself has only the mental images and resonance of the connection to convince her of what she

believes is being communicated. Should she actually be able to communicate with these wild animals then it could possibly be, at least partly, explained as mirror neuron activity occurring between species.

It is possible that Breytenbach is a hoax who is very compassionate and intuitive in finding solutions with animals. The existence of others, like Nicci Mackay (1998), Martha Williams (2005), Sharon Loy (2016), Terri Steuben (2020), Laila Del Monte (2020) and Sonya Fitzpatrick (2013), who claim precisely the same abilities and who all evidence a high level of success in their work, seems to suggest otherwise. In each of these cases, we have only the individual and their client's word as to whether they are successful. An article that covers interspecies communication does not look at scientific evidence into the phenomenon, but refers to Williams and women like her as a 'ragbag of sundry New Age women' who seem to have created a 'booming online business' (Hafen, 2013:191-192). Hafen also mentions that these women claim that this ability can be gained by anyone, and that people who have retained their indigenous culture are more likely to be able to communicate telepathically with other species or even other humans. The only peer-reviewed research into cross-species communication that I encountered examined such telepathic communication under laboratory conditions and this has often shown statistically significant results that some form of telepathic communication does occur (Erickson, 2011).

What has not been reviewed here is long-distance, telepathic, human-to-human communication. One possible physical mechanism for telepathy could be explained by quantum entanglement, which will be presented later in this chapter within the 'Science and its relationship to religion' section. I address two possible mirror neuron or telepathic experiences in my data chapter making the discussion of them relevant to this study.

The phenomena of mirror neuron activity and synaesthesia are important for this study in that they show how biological activity can teach us more about the physical underpinnings of mental activity and vice versa. It also shows that it would not be

correct to think that each bit of learning is distinct and individual from the next, or even distinct from the learning of other people. It also shows that the thoughts of one person have the possibility of being a teacher for another. If this kind of learning is the case, we need to recognise that those in our environment may influence our reality in unconscious ways and that the thoughts and beliefs of a science teacher may influence their learners.

Observing and talking with nature spirits and angels

If we are prepared to accept the possibility of people during NDEs and NDLEs encountering supernatural beings (Ritchie and Sherrill, 2007) and that Breytenbach (2015) and others can communicate with animals, then it is not that much of a stretch in thought to embrace the possibility that there are people who can communicate with beings who stand behind nature in general. It is a small extension from Goethe's recognition of the presence of the *Urplant* (Von Goethe, 2009) to someone who not only senses this archetypal reality but can experience and interact with it directly as an animated being. There seems to be no peer-reviewed research that verifies the claims of those who speak to nature spirits, leading me back to the grey literature. Mythologies and folk tales from many parts of the world are rich in imagery of such fairy-like creatures, but most Western people seem to no longer believe that they are real in any way.

In southern Africa, we have the traditional San and Khoi stories of gods who appear as animals, like the praying mantis (Schmidt, 2018). In other parts of the world, there are similar stories like the folk beliefs in Indonesia, prior to their condemnation by conventional religion (Wessing, 2006). Grimm's fairy tales are possibly the best record of such stories from central Europe. The brothers Grimm travelled the German countryside gathering these stories in the late 1700s and early 1800s, before traditional rural life was lost to urbanisation and an industrialised economy (Zipes, 2002). The stories that the brothers collected contain various animals, plants and objects that behave in anthropomorphic ways. These stories are relevant to this study because of a story that I will relate in Chapter 5, which includes the

appearance of mythical creatures with magical powers, like in *The Giant and the Tailor*, *The Nixie of the Mill-Pond*, *The Elves* or *The Gnome* (Grimm and Grimm, 2016). Each of these stories carries the impression that forms of being exist beyond what are materially sensible.

There are people who say that they can perceive and communicate with such nature spirits (Crombie, 2018; Pogacnik, 2012; Weirauch, 2004). There is an example of encounters with Pan (Crombie, 2018), the god of nature, and with Irish leprechauns in *Summer With the Leprechauns: A True Story* by Helliwell (1997). Both Pan and leprechauns have a long history in folk tales. When reading these authors' books, it is clear how we are entering a realm of purely subjective proof as there could be no possible way of experiencing what they say except through spiritual perception. Verena Stael von Holstein, who is interviewed by Weirauch (2004), is possibly the most detailed in the variety of beings with whom she communicates and, because of her science background, is able to communicate in a manner that one can readily test against one's own intuitions and experiences. Von Holstein and Pogacnik both describe the means of nature spirit communication as them needing to translate the spirits' gestures into human speech which the nature spirits then immediately confirm or correct, indicating that these spirits read human thought (Pogacnik, 2012; Weirauch, 2004). I mention these encounters here because of what I will relate of my own experiences in Chapter 5.

The literature search into the range of our sensory and super-sensory experiences from science through religion to some unusual personal perceptions has now concluded. The attempt to review a holistic journey through Smuts's substances and some of the monist, holistic intimacy of the relationships between body and mind as well as mind and personality has been completed. The role of each aspect of this journey on the creation of my wreality will be addressed in Chapters 5 and 6 in their relationship to my autoethnography. The next section will review different approaches to finding reality.

The search for reality

This section of my literature review intends to give a brief survey of some approaches to defining reality. This is done to expand the context to the reality presented with holism in Chapter 2.

A search for 'reality' on the University of Pretoria's library page on 27 July 2019 yielded the following titles: *The Road to Reality: A Complete Guide to the Laws of the Universe* (Penrose, 2005) where a purely positivist, physical scientific approach to reality is taken; *Reality Therapy: A New Approach to Psychiatry* (Glasser, 1965) which emphasises the patient's acceptance of their reality, indeed their wreality; and an electronic journal called *Virtual Reality* (Macredie, 1995) which focuses on computer-generated or computer-assisted realities. These three titles, as a mere gauge of what exists, indicate that reality can be found scientifically in physical phenomena, psychologically in personal experiential phenomena, or that it can be electronically, artificially created through computer simulation. Science, psychology and computer simulation are three distinct subjects with different ways of looking at reality, but each academic subject studies its unique view of reality.

A short internet search for university subjects listed 119 different subjects on the United Kingdom website which compared subjects on offer at different universities by their Higher Education Statistics Analysis. On the University of Pretoria's website, I found 140 academic departments listed under the nine faculties of Economic and Management Sciences, Education, Engineering, Built Environment and Information Technology, Health Sciences, Humanities, Law, Natural and Agricultural Sciences, Theology, and Veterinary Science. A full survey of reality therefore needs many specialist areas within which to study it, and many new areas arise each year as we recognise aspects of reality that have not been previously explored.

The divisions of university departments that have their primary focus on finding the facts and workings of the world from a predominantly positivist perspective are Engineering, Health Sciences, Veterinary Sciences and the Natural and Agricultural

Sciences, while those that focus on what is needed for human social and spiritual life are Economic and Management Sciences, Education, Humanities, Law, and Theology. This divide between objective/material and subjective/mental as the primary source of reality dates back at least to Plato who saw mind as the primary reality because, he says, our sense impressions are an illusion, as expressed in his analogy of the cave (Oyebode, 2011) and Aristotle who believed that reality is tangible because it is manifests externally, even though it can only be grasped through the activity of the mind (Aristotle, 350 BC). Like Aristotle but, with greater Goethean monist clarity of the intimacy between the inner and the outer, Steiner claims that full reality is an embodied combination of the external phenomena and our concepts and understandings of them (Steiner, 1999).

Science, originally called natural philosophy as explained before, was based predominantly on the work of the Ancient Greeks, particularly of Aristotle and the Islamic Alchemists (Atran, 1993). It was a blend of philosophy, astronomy, physics, medicine and other observations of natural phenomena (Del Soldato, 2015). Although studied as a separate category from mathematics and metaphysics, which included religion, natural philosophy was seen as a way of studying the manifestations of God's work (French and Cunningham, 2016).

Science, based on its self-created limitation to objective, observable phenomena and thinking that accepts only logic, hypotheses and ideas founded on such phenomena, is positioned within positivism (Comte, 1976) and Marxist materialism (Korsch, 2016). Positivism and Marxist materialism claim that matter and energy, as studied in science, are the only substances that exist and that mind is simply an extension of them. This does not mean that all scientists reject the notion of being, such as the existence of God (Dimitrov, 2010), it means that the content considered for scientific study derives solely from the material world (Comte, 1976).

The opposite extreme of this conceptual thinking is Plato who argues that reality is found only in the mind as portrayed in his analogy of the cave where the impressions of our senses are like shadows made on the cave wall (Oyebode, 2011). Through

the voice of Socrates, Plato argues that a philosopher is permanently striving to be rid of the body and the material things of this world in order to experience pure and true reality (Plato, 360 BCE). In 2021, a different form of this same reality is portrayed through much of religion, which is often based on the belief of beings who are not manifest in physical bodies but from whom we receive all that is good, both physically and spiritually. The religious faithfully study the religious texts for the foundations of reality and follow the facts and findings from there. The arts perform their role in demonstrating Platonic aspects of reality through creative means of dance, ritual, music, visual arts and more. The use of narrative and story are probably the most used of the arts to present Platonic/religious reality. This separation of the realms of objective/material and subjective/mental reality is challenged in many ways, with monist holism being just one.

All views of reality change over time. As we learn new information, the reality expressed in each university subject, including what is taught by science, religion and philosophy, changes. One view of reality which seemed to change quite rapidly in the few decades prior to 2021 is our social and cultural reality.

Social and cultural reality

Each academic subject, nation, culture and religion, even each individual, will have a different worldview or wreality. Owing to the spreading of human rights and democracy, many contemporary societies try to be inclusive of multicultural realities and respect individual freedoms with laws against sexism and racism, as the recent history of South Africa demonstrates below.

South Africa, prior to 1994, had a view of reality under apartheid where racial discrimination and White supremacy was enforced with many laws restricting life opportunities for anyone not classified as White (Brand South Africa, 2016). Having abolished these laws, the social life of all South Africans was given a new reality. Soon after the end of apartheid in 1994, the use of corporal punishment, using physical, bodily punishment like hitting or caning, was banned for prisoners. A similar law banning the use of corporal punishment in schools was introduced

shortly afterwards in 1996 and in 2017 the South Gauteng High court ruled that it could not be used in the home (Independent Online). The law sets out the reality of what one is legally allowed to do. Social norms are among the more fluid realities as they are constantly changing. On 20 January 2020, as I write this sentence, some older members of the African National Congress (ANC), the ruling political party of South Africa, want to refuse entry of one of its female members to a meeting because they regard her dress as too short; ending just above her knees. Her response of 'I am not going to shrink to make men or anyone comfortable' is testimony to the fluid nature of cultural reality in the face of increasing individual human rights (The Citizen, 2020). The South African Bill of Rights was the start of many of these and similar changes to South African reality, including the introduction of same-sex marriages, something that would potentially have taken a lot longer to be passed into law had a natural evolution of cultural reality taken its course, as exemplified in many other African countries (Kaoma, 2018).

The social and cultural aspects of reality are important elements of a person's wreality, but so are the scientific and religious ideas and practices within their ethnographic world. Science and religion both claim to represent versions of reality which, although they also change over time, are probably more stable than political, cultural or social realities.

Philosophical reality

The Ancient Greeks were not the first to try and develop a coherent sense of reality, but their analytical and clearly reasoned approach is one to which we can relate in academia. Aristotle's work on the recognition of the four elements of Earth, Water, Air and Fire as a scientific attempt to address the basic constituents of material reality and his *Metaphysics*, which addresses substances beyond those that can be studied physically, divided reality into the two distinct categories discussed earlier in this section (Aristotle, 350 BC; Hutchinson, 2015). In this section, I conduct a very brief review of some ways in which philosophers categorise reality as a background for what is presented in my conclusion in Chapter 7.

Popper takes Aristotle's first category, which includes all physical things, including biological and man-made entities, to be his first world. Popper divides Aristotle's second category of metaphysics into two worlds, with Popper's second world being the mental processes of thinking and feeling, and his third world as the fruits of these mental processes, like theories, stories and other fruits of processed experiences (Popper, 1979). Popper's second world describes some of the tools required to challenge and test our experiences and understanding to achieve Plato's examined life. In Popper's second world, the individual refines their wreality by testing its contents according to Popper's principle of falsifiability, of finding whether it has any supporting evidence (Popper, 1979). Popper's third world is populated by the examined elements of a person's wreality. Popper regards his third world as being objective whereas my concept of wreality can be regarded as being objective only to the extent that it agrees with and is in harmony with outer facts.

Constructivism as a methodology for creating one's own wreality can also be seen as a philosophical basis for determining reality. Constructivism as described by Piaget is in harmony with Popper's third world (Harlow and Aberasturi, 2006) and is an important aspect of the philosophical basis for my concept of wreality. Both Popper and Piaget agree that the subjective inner-life workings of the human being are flanked by the two objective realities (Harlow and Aberasturi, 2006) of the outer material world of Popper's first world and Popper's third world as an objective, having passed the tests of falsifiability, the inner constructed fruits of human activity. It is the combination of Popper's first and third worlds that Steiner would see as making up the fullness of monist reality (Steiner, 1999) and Popper's third world that Plato might accept as being the fruits of an examined life.

The above philosophical approaches to reality try to clarify the role of various elements of mind and matter but categorise them slightly differently. School science strives to present students with an understanding of the reality of the physical world, so science should make a stronger effort to position itself within the greater context of a philosophical reality if it is to succeed in the important task of enabling teachers

and students to build a holistic wreality. Science, as we shall see below, has more challenges than just this.

Science and its relationship to religion and education

This section of the literature review will begin by critiquing science to argue that it needs to incorporate artistic and religious thinking into its practice. Various perspectives are presented here, including the branch of quantum mechanics within science that may help to bring religion and science closer. The argument then moves to identify the current use of the arts in the science classroom and promote a holistic inclusion of the arts and religion in science education.

There are many criticisms of science. Jan Smuts, in the last few years of the Second World War said,

... science has fallen into discredit. It has brought no solution to our human problems and has added greatly to our engines of destruction in this war. Not that science is to blame for this misuse, but people judge by results, and by that standard science has a heavy account to liquidate. Science so far has had far too much to do with the things of sense and of matter, and the things of the spirit have been by-passed. (Hancock, 1962:395)

In the above quote, Smuts is criticising science for its misuse in increasing the destructive power in war, something he is saying would be less the case were science to take our spiritual life more into consideration. In 2010 and 2015, the editors of two of the most prestigious medical journals, the *New England Journal of Medicine* and *The Lancet* both declared that much of the research being done in the medical field can no longer be trusted (Gyles, 2015). One of these editors went so far as to say that science has 'taken a turn towards darkness' (Gyles, 2015:1). Smuts may have judged correctly that by 'by-passing the things of the spirit' (Hancock, 1962:395) the practice of science has fallen from its great promise of liberation from outer authority for the human personality to give expression to, amongst other things, lies and deceit to satisfy selfish and destructive impulses

(Gyles, 2015). Unlike in war and fabricated research results, not all the damage from science is intentional. Problems of human-generated global warming through pollution of the atmosphere, the enormous Fukushima and Chernobyl nuclear power-plant catastrophes, and the curse of plastic pollution the world over are examples of devastating unintended consequences of science. Even medical science, which is so good at saving lives, is unintentionally helping the exponential increase of the human population. On 29 September 2021, the worldometer website showed that the world human population had increased by over 60 million people since the start of 2021 (Worldometer, 2021). The population of South Africa on the same day was almost identical, meaning that, had South Africa been empty at the start of 2021, the entire country could have been filled with babies in a nine month gestation period. The increase in population has manifold consequences in lost habitat and extinction of many wild animals and where currently over 95 per cent of mammalian mass on Earth is made up of 33 per cent humans and about 62 per cent livestock (Attenborough, 2020). By these accounts, science has a truly enormous account to liquidate (Hancock, 1962).

On a different note, in *The Scientist as Rebel*, Dyson (2007) shows how scientists from all over the world have used their science to resist the stifling traditions of their varied cultures in both East and West. He argues that the idea of science as a Western cultural phenomenon is not accurate as its practice and the persecution of innovative scientists who challenge the status quo across the globe has been fairly uniform. Dyson (2007) goes so far as to say that, when science no longer stands in rebellion against the outdated traditions of culture and authority, it should no longer have the right to take hold of and inspire the best minds among our youth. The above evidence indicates that science may be moving away from helping people build a healthy wreality by not being self-reflective, and by avoiding matters of the spirit, science may be close to losing our best minds.

Historically, science was once a part of religion and religious practice. The experimental Alchemists were born out of Islam, and European science was initially a part of the Catholic church and other religions (Fara, 2010; Maslow, 1964).

Science gradually gained its separate identity and then proceeded to exclude religion from its practice. The fierce independence from religion established itself in many fields which claim to be scientific, including fields that deal with the human mind like the psychology of Freud (Maslow, 1964). The second chapter of Maslow's work on the psychology of what he calls peak experiences is titled 'Dichotomized Science and Dichotomized Religion', in which he analyses the separation of these two fields and expresses the danger of fragmentation that this presents to the human mind and to society. An important aspect of Maslow's writing refers to the way in which many words become the exclusive domain of one field, leading to polarisation (Maslow, 1964). Maslow's holistic approach does not demonise either field but, like me, seeks to find the gifts and challenges of each and find a path towards their holistic union.

The great achievement and strength of science lies in its methods. The accuracy and measurement, disciplined reason and logic, scepticism and doubt, development and refinement of experimental equipment and investigative methods, testing and retesting, and the wish to not rely on the authority of any outer source but rather to be empowered to find the answers for ourselves, all serve to make empirical scientific methods and results robust and dependable (Cohen, 2013). These methods give rise to facts and theory that are continually checked and tested to determine their limitations, scope and uses (Rosen, 1996) – a wrestle for an objective, observable and verifiable reality. Science has not only brought us an understanding of most of the fundamental forces and materials of our physical world, but it has also made us more powerful (like computers that can think and machines that can work faster than people) and able to do things that would otherwise be impossible (like communicate and travel underwater, in air and in space). An often-overlooked benefit of science is that it empowered the personality to not need an outer authority to tell it what is real and what is not. This rebellious impulse has led to enormous changes in society, initially through the technology it produces in the ongoing industrial revolutions, but also in the social revolutions that began in England with the start of the first industrial revolution in the 1760s. This

rebelliousness has led many individuals and groups to challenge the established authorities of their time, including the authority of religion. The unfortunate exclusion of a framework for science to challenge its own assumptions stands in direct contradiction to this liberating impulse (Benesch, 1983).

Some extremes in the polarisation of attitudes towards science and religion can be found in Richard Dawkins writing, as demonstrated in *River Out of Eden* (Dawkins, 2008). In this book, Dawkins argues that natural evolutionary processes which cause alternating times of abundance and starvation are driven by an unconscious and uncaring indifference. This idea that nature and science are amoral (beyond morality) has, at times, led to the pursuit of knowledge as an amoral activity where the end justifies the means. High-modernism, where materialistic scientific thinking has been used to design and plan society artificially (Scott, 1998), is an example of this. China's Great Leap Forward, Cambodia's Killing Fields and Soviet Russia's collectivisation (all of which devastated society and killed millions of people) as well as the Nazis attempt to annihilate whole population groups and Nazi scientists' inhumane tests on concentration camp prisoners (Maslow, 1964) are examples of this. In each case, religion-free, rational, objective thinking was used to allow the application of the end to justify the means (Scott, 1998).

The opposite side of the end justifying the means is the religious belief that God is the cause of all things and that good comes from his love and bad from our disobedience of his laws. Religious wars are not new to our world and some conflicts arise from even seemingly small religious differences, such as the current conflict in Afghanistan between the Taliban and Islamic Jihad (Ibrahimi and Akbarzadeh, 2020).

The above two paragraphs seem to indicate that when science and religion do not work together, the danger of each seems to increase. There are fortunately a number of attempts to embrace science and religion as complementary versions of reality and the next section will review some of these.

Bridges between science and religion

An example of the personal effect of the split between science and the arts as an aspect of what I call religion in Chapter 1 is expressed in C.P. Snow's *Two Cultures* (Snow, 1959). Snow describes how in the 1950s he interacted with scientists in his daily work and with writers and other artists in the evenings. These two groups had so little in common that they effectively lived in worlds that could not talk to each other. The philosophical distinction of reality between science and religion in the broad sense that I am using it became, in England for Snow, an outward manifestation in culture and practice of what Maslow had noticed in the United States of America around the same point in time (Maslow, 1964). Snow, like Maslow, expressed and contextualised his wish to bridge this divide.

A journal on science and religion, *Zygon*, which has been publishing for over 50 years, begins their Statement of Perspective on the front page of their website with the explanation that 'the word zygon means the yoking of two entities or processes that must work together.' (Petersen, 2021) *Zygon* is thus dedicated to finding ways that science and religion can work together. In May 2019, they published an article with a critique of scientism, that is, science as an ideology and cultural practice with its own traditions, arguing that any blind adherence to scientism is counter to the health of science (Baron, 2019). The article argues that within the origins of science were ideas leading to an uplifting of humanity and the empowerment of the individual in a democratic society. This view of the empowerment of the individual and society through science is shared by some current scientists (Dyson, 2007). The historical role of science in encouraging democratisation in Europe and Britain, in particular, is well documented (Kramnick, 1986; Nedeva and Boden, 2006).

Dawkins, in *Unweaving the Rainbow*, argues that although religion, which he perceives as a set of untested beliefs and practices, should be rejected, but our artistic and religious feelings should not be excluded from our scientific work. He expresses the idea that our human ability to be able to analyse our world through science can deepen our reverence and awe for it (Dawkins, 2000). Although

Dawkins rejects religion, he argues that science should not kill our rich inner lives but rather help to enliven it and, in saying this, shows that the worlds of objective science and subjective experience belong together.

Moving classical Newtonian science closer to religion and art

Newtonian science, the science predominantly studied in South African schools, has no curricular reference to feelings like awe and reverence. Newtonian science promotes the idea that matter, space and time are objective, clearly defined, independent and separate from each other (Newton and Chittenden, 1850). Einstein's relativity shows us a problem with the assumed separation of time and space as adopted by Newtonian science. With relativity, Einstein expressed what scientists currently accept to be the real relationship between time and space that, at speeds close to the speed of light, space bends and time stretches (Born, 1962).¹⁹ Einstein's rejection of the assumption that space and time are absolute opened a door to alternative assumptions for scientific reality.

Quantum mechanics (QM) opened another such door. Through QM, a bridge was formed between the substances of energy and matter and this led to a more philosophical attitude to science and its findings (Heisenberg, 1958). Werner Heisenberg, one of the founders of QM, argues that subatomic matter has a relationship with human knowledge and intentions. This is based on Heisenberg's uncertainty principle (Busch et al., 2007) where he realised that the full reality of a subatomic particle can never be known and that the more we know about one aspect of it, like its position, the less we can know of its other aspects, like momentum or speed.

Another aspect of QM that challenges Newtonian assumptions is what is called quantum entanglement, where two or more subatomic particles become entangled so that even when they are separated, they will behave as though they are attached (Yin, Cao, Li, Liao, Zhang, Ren, Cai, Liu, Li and Dai, 2017). Yin et al. demonstrated

¹⁹ Conditions of extreme gravity also affect time and space, but these will not be considered here.

that when entangled particles are separated by over 1 200 kilometres, changes made to one particle create a simultaneous change to the other. Our current distance limitations for testing entanglement are due to the ways in which we test it. It is possible that entanglement could act across our solar system or further. Entanglement communication happens instantaneously and the manner in which the information travels from one particle to the other, if anything travels, has not been detected (Bengtsson and Życzkowski, 2017). Entanglement is also linked to quantum teleportation, but this is not the teleportation of matter, just the state in which the matter is found (Zeilinger, 2018). Quantum entanglement may be related to telepathy and the mirror neuron effect as the behaviour of one thing simultaneously effects the behaviour of another. It is relevant to this study as two of my stories in Chapter 5 may be explained by it.

The Copenhagen interpretation of QM that contradicts Newtonian assumptions is that particles, as matter, and waves, as energy, can exist in a state known as quantum superposition (Tegmark and Wheeler, 2001) or matter-waves (Heisenberg, 1958). In this state, it is neither matter nor energy but manifests as one or the other when we set up our observation station. At the moment of observation, the quantum superposition state will collapse into energy or matter, but it will become the form that we have set our experiment to test. The collapse demonstrates, through observation, a fundamental relationship between a matter/energy manifestation and consciousness. Although the following conclusion would be contested, particularly by new materialists (Barad, 2007), theoretical physicist Michio Kaku argues that if observation affects manifestation, then possibly all manifestations of matter and energy, including the current form of our world, are determined by consciousness/mind or personality (Kaku, 2015). What QM may further imply is that the undetectable quantum superposition state may be a further Smuts substance that science has yet to recognise.

Many scientists would strongly reject the opinion that the world is the way it is because the mind of God set it up to manifest in that way (Coyne, 2018; Dawkins, 2000). QM has, however, moved the view of many scientists closer to religion. Many

QM scientists embrace aspects of this and such thinking can be found from Christian (Davies, 1984), Jewish (Schroeder, 2009) and Eastern (Capra, 2010) religious perspectives. One scientist, John Polkinghorne, ended his 25-year career as a Fellow of the Royal Society and professor of mathematical physics to become an ordained Anglican priest (Polkinghorne, 1998). Polkinghorne has written many books on bridging science and theology such as *The Faith of a Physicist* (Polkinghorne, 2014) and *Science and Providence: God's Interaction with the World* (Polkinghorne, 2011), with his work being rewarded a British knighthood in 1997. That a great many science Nobel Prize winners are religious (Dimitrov, 2010) is further evidence of a compatible relationship between science and religion at the highest level.

The use of traditionally religious tools like art, the telling of stories, poetry, music and the use of metaphor, imagination and even intuition are commonplace in creating and understanding science (Dreistadt, 1968; Dyson, 2007; Holton, 1975; Isenman, 1997). Dreistadt and others argue that to make progress in science, we need to not only be able to perform its methods, but we also need our creativity and intuition. Dreistadt (1968) presents many examples, from Archimedes discovering the way to measure how much gold was in the royal crown through an insightful observation while having a bath, to Kekule having a dream about a snake eating its own tail and interpreting this to show the chemical structure of benzene, to demonstrate the intuitive use of metaphor and analogy in scientific discovery. When we use intuitive thinking with rational logic and practical findings, we are then no longer just the doers of science, we become the potential creators of science. However, in many countries, but in South African schools in particular, the tendency to place separate skills into different subjects remains dominant.

Various levels of holist reality interacting harmoniously

Keeping subjects separate presumes that we experience the different substances of reality separately as opposed to our lived experience of the monist integration of many substances within holistic reality as demonstrated earlier in this study. Owing

to the intimacy and monist oneness of existence, we can use any substance of holist reality to affect another. We can use external matter in the form of food, medication or psychedelic drugs to affect the mind, or use consciousness in the form of meditation, art, exercise, music or education to create material effects, as seen with QM. The ability for our mind to affect matter has been shown in how a change in our emotional state gives rise to a production and release of certain chemical hormones in the body (Eagleman, 2015) with the reverse also being true.

A medical practitioner presents QM as a possible explanation for how the mind changes the manifestation of illness in the body using meditation and mindfulness techniques (Kabat-Zinn, 2013). He presents cases from over 50 years of medical research showing that, among other factors, negative beliefs, hostility and suppressed emotions all increase the risk of illness, whereas self-belief, good relationships and a can-do attitude lead to increased health. Participants in Kabat-Zinn's meditation clinic at the University of Massachusetts Medical Centre, show reduced negative health indicators such as high blood pressure, tissue inflammation and other harmful immune system responses from practicing mindfulness. Health benefits have also been noticed with the placebo effect, where patients' health improves faster if they have faith in the treatment that they receive (Bausell, 2008). Another doctor, a chiropractor, claims that the mind is so powerful that we can create a new personal identity, change the material chemistry within us and even cure illnesses regarded as incurable by conventional medicine (Dispenza, 2013).

Dispenza has demonstrated that by achieving specific mental states, the patient is able to change their measurable frequencies of brain-waves which then changes their physical body. In the introduction to his book *Becoming Supernatural*, he says that he measures brain-waves in order to find a bridge between science and mysticism (Dispenza, 2019). Dispenza describes an NDLE during which he felt that he was on fire with bright love, not romantic love but an all-embracing love. He says that this experience was so good that he never wanted it to end, echoing what is expressed by many who have had NDEs. A later experience included him reliving an incarnation as an Ancient Greek philosopher. Dispenza's mention of science, an

NDLE and reincarnation incorporate elements that are relevant to this study as they give some substantiation to my wreality as I construct it later in this study.

School science and some attempts to bring the arts into it

Wong and Hodson (2009) researched the view of practicing scientists to probe their views on school science education. They identified the perception that science education is not focused on an understanding of the nature of science (NOS), nor on teaching students to be creators of science, nor on performing the scientific method. Currently, school science is mostly about studying certain findings and theories of science and using them to solve idealised problems. This is true even in South Africa, despite official policy saying otherwise (Department of Education, 2001). This current focus makes practical sense because it represents the basics needed to be initiated into the knowledge and practice of science. Science education is, however, so abstract and removed from practical reality that it is often alienating and lacking in interest for students, not just in South Africa, but also in the United Kingdom (UK) (Denessen, Vos, Hasselman and Louws, 2015) and the United States of America (USA) (Emdin, 2010). To address this lack of interest, many attempts have been made over the years to encourage a simpler and more accessible approach to science education, particularly in the USA and the UK (Jenkins, 2006). Studying the social impact of science and technology or studying NOS encourages the students' sense of ownership and citizenship in the use of science and technology. In certain Western countries, this is done by introducing the reflective practices and content of NOS into the science curriculum (Forsyth, 2017; Lederman, Abd-El-Khalick and Smith, 2019). NOS includes the idea that science is not just a body of knowledge, but also a human activity that is subject to human social, cultural and religious influences. The effects of science on culture and the economy, although included in syllabi in countries like Ireland (Kaya, Erduran, Birdthistle and McCormack, 2018), are meant to be included in South Africa (Department of Education, 2001) but are only lightly reflected in science textbooks or the teaching in the science classroom (Siyavula, 2002).

Examples of using the arts in science education are numerous, but there are some, like Paul Dirac, the Physics Nobel Laureate in 1933, who reject the helpfulness of this. Dirac declared, 'The aim of science is to make difficult things understandable in a simpler way; the aim of poetry is to state simple things in an incomprehensible way. The two are incompatible.' (Collins, 2011:1)

Some researchers have shown that Dirac's view is correct as, in certain cases, the use of creative imagination and artistic devices can be distracting to the learning of science in its current form (Daston, 1998; Harp and Mayer, 1998). Other research shows the successful and common use of the arts, mostly in the form of posters in science education (Lorimer, 2011). A study in south-eastern Europe tested the use of stories with a group of Grade 9 students aged 14 to 16 and found that their interest, engagement and test scores improved in both the immediate and medium term (Hadzigeorgiou, Klassen and Klassen, 2012). Hadzigeorgiou et al. found that student engagement in the work with respect to romantic themes like heroism, humanisation of meaning, sense of wonder, and their ability to contest conventional scientific ideas improved in both the short and long term. One educator in urban USA used Hip Hop music to successfully engage his students in science (Emdin, 2010) while in South Africa, research showed a significant, holistic increase in interest levels of students when chemistry was taught using a video of experiments in conjunction with poetry on the content (Mirkin, 2017).

As mentioned earlier, many science Nobel Prize winners are open to religion (Dimitrov, 2010) and most practice the arts (Root-Bernstein, 2011) This should help to persuade us of the potential benefits of the arts and religious thinking and feeling in science education. When one of the greatest scientists of all time, Richard Feynman, apologised for giving a lecture instead of a musical or poetry recital, declaring that our age was 'not yet a scientific age' (Feynman, 1955:14), he was expressing his sense that science without art indicates its lack of maturity. In turn, when Heisenberg said that our initial immersion into science will convince us that God is dead, but that a full saturation through science will again bring us an experience of His presence (Schröder, 2007), he was expressing the Goethean

holistic thought that initially hidden behind the objective facts of science lives a presence akin to the God of religion.

By employing creative, imagination-filled holistic thinking, we can place the reality presented by science more clearly into its broader context and its relationship with the human being, something that many say is needed for science education (Emdin, 2010; Jenkins and Nelson, 2005; Kimmerer, 2013; Klassen and Klassen, 2014; Lyons, 2006; Mirkin, Evans and Ferreira, 2020).

As already presented in this chapter, physical science can be a powerful training ground for the mind to be able to work towards the very light of understanding so valued by religion. It is not only in science where these skills are developed, and it is also dependent on how the content is taught and whether simple rote memorisation or critical and inquiry-based learning is used (Suryanti, Arifin and Baginda, 2018). What is particular about learning skills through physical science is that the observable facts help us to always see if we have made any mistakes in our thinking.

Observable reality is a sure and solid reference for training our thinking. If the thinking does not fit the facts then it is not a matter of perspective, belief or opinion, we must simply be wrong in our observations or thinking. Physical science is a perfect field within which to train our senses, sensations, logic, reasoning and concept development (Cohen, 2013). When we teach science holistically, our emotional, imaginative, moral, behavioural and identity formation, which can be linked to an experience of intimacy and responsibility towards ourselves and the world, also become more skilful (Kimmerer, 2013). Building a trust with students to engage their scientific thinking and religious feelings in the science class has its challenges.

A potential challenge to students forming a harmonious relationship between science and religion comes from the creation versus evolution debate. In England in 2012 and 2013, Professor Richard Dawkins, a self-proclaimed and well-known

atheist, debated on television with the then Archbishop of Canterbury, Rowan Williams, on the origins of reality. Among other influences, their conflicting and uncompromising positions led to a perception in England of a fundamental conflict between science and religion. Since then, possibly due to this and other factors, research into religious students studying science in England has shown a decline of interest and engagement unless it is to try and prove science wrong (Forsyth, 2017). Some research indicates that student perception of conflict between science and religion is not uncommon (Coyne, 2018; Stenmark, 2017). Other research shows that many students see science and religion as partners working together to give us a full picture of reality (Drees, 1989; Sacks, 2011).

Forsyth (2017) investigated the findings of many researchers into religion in the science classroom. Forsyth warns us of some potential dangers should we try to engage religious thought in the science classroom. He examined the work of Barbour, Haught, Nord, Polkinghorne and others, and found nuanced categorisations of the relationship between the two subjects. He found that three separate scenarios occur. First, where students perceive that they are in conflict they may use the one to try and dominate the other for the authority over the ultimate nature of reality. Secondly, there is the perspective that they cover distinct content and should not try to engage with the content of the other, and thirdly, there is the perspective that the one can serve to enrich the findings of the other (Forsyth, 2017).

Some people who have adopted Forsyth's third perspective have examined how science goes about its business and that science should try to be more introspective in order to understand its true nature (Benesch, 1983; Kuhn, 2012). Kuhn's work has led many to examine the NOS and to investigate university and school students' understanding of it (Khishfe, Alshaya, Boujaoude, Mansour and Alrudiyan, 2017). Benesch (1983) and Kuhn (2012) agree that it is not just a matter of finding a relationship between science and religion, but that science itself is actually ignoring an important part of its responsibility by being active in the world without the healthy, self-regulating components of honest and humble self-reflection. Engaging students in reflecting on the influence of science in their lives could be a way to holistically

bring religious and scientific perspectives into conversation. The study of NOS is one such reflective practice that can be used to do this.

Two approaches to the use of story in the science classroom

One researcher with a holistic approach wants to teach science as a story (Winston, 2019). Winston suggests teaching the science content by turning it into a story in order to capture student attention and contextualise the work makes it easier for them to remember. This is suggested because, says Winston, the curriculum covers a large range of topics but only superficially, and to enrich the experience we need to give the content more glue to hold the separate parts together. Winston, although not mentioning it directly, is suggesting using the whole-making nature of story to present the work more holistically. This is the approach that I took in my research that used poetry to successfully improve learner interest (Mirkin et al., 2020).

Salehjee (2020) is a researcher who teaches science using stories which highlight science. Although Salehjee is focused on teaching primary school science, by finding the science within stories that children know from the media like *Charlie and the Chocolate Factory*, stories about science are also applicable. This approach does not involve reframing the content of the actual science being taught, but relates, in part, the stories of how scientists made their discoveries, as is often done in the margins of science text books.²⁰ Many stories found in newspapers or magazines of current scientific events as well as more historical pieces written by famous scientists from books such as *The Faber Book of Science* (Carey, 2012) and *The Periodic Table* (Levi, 1984) could also be used as stories to give science content real world (scientists' actual experience or practical application) context. The use of story in the science classroom encourages students to perceive science as a way of exploring interesting phenomena in the world as opposed to just a collection of facts and theory (Salehjee, 2020).

²⁰ My first encounter with this was in my university chemistry textbook *Chemical Principles* by Boikess and Edelson, Harper and Row (1981). I can recall one story from this book but no details of any other text.

Winston's (2019) wish to tell science as a story involves gathering the subject concept knowledge together, building up to a peak of concepts, and then allowing the students' creative imaginations to frame them into stories of their own making. The final step is the descent down from the story to see how the concepts are applied into different areas of scientific work. This process encourages students to develop a monist approach to reality similar to that mentioned at the end of Chapter 2 in this study, where the phenomena and our knowledge about them form a holistic oneness so that the student personalises the facts and how they work in the world.

A possible advantage to learning science holistically through story could be similar to that seen through learning to play a musical instrument. The simultaneous activity of multiple parts of the brain could lead to similar results of increased brain mass (Hyde et al., 2009). I have not encountered research done on the holistic stimulation of brain development other than in music, but holistic science education could possibly have multiple benefits considering the brain changes that research shows result from all activity (Eagleman, 2015). A challenge for teachers to teach holistically is that they will need to engage personally, reflectively and scientifically in the science classroom, something that many science teachers are not willing to do (Mirkin, 2017).

Autoethnography

Autoethnography study's focus on the experiences of the researcher in relation to their lived experiences. As a methodology, autoethnography will be addressed in the following chapter. This section of the literature review argues that science teachers should be willing to engage with their own lived experiences to cross-reference the science content that they teach with their personal beliefs. I argue that this cross-referencing is needed to address some of the potential dangers of both science and religion as well as developing needed tools for the Growing Self. Literature on teachers' autoethnographies are then reviewed, ending with the focus on autoethnographies of science teachers in order to identify the gap in the literature that this study hopes to address.

Should science teachers reflect on their beliefs?

The Ancient Greeks had the inscription ‘know thyself’ written above the entrance to the temple of Apollo at Delphi (Ryff and Singer, 2008) as the highest ideal for humanity. Ryff and Singer look at this saying through the lens of the work of Aristotle in his *Nicomachean Ethics* to discuss what the highest good can be for people. They argue that knowing yourself combined with the striving for Aristotle’s idea of the highest good can lead to improved psychological and biological health. Aristotle’s striving for a virtuous life includes the self-knowledge implied in Plato’s idea of the examined life and the growth of a developing conscience which, it is claimed, leads to true happiness (Hutchinson, 2015).

Science teachers who believe in the value of what they teach are usually influenced by their personal idea of what will bring the highest good to their students (Ueda and Isozaki, 2016). Ueda and Isozaki show the importance of the beliefs that science teachers hold about science and why they teach it, and they argue that more emphasis should be put on this in science teacher training. A study of science teachers’ stories reveals how many teachers struggle to integrate what they know is true about the world and how to teach it (Avraamidou, 2014). This indicates a difficulty in putting the ideas as given by science into a form that resonates with their own reality or that of their students. Avraamidou (2016) also shows how fundamental teachers’ experiences and beliefs are in the effectiveness of any reforms in education which would be needed if the curriculum were to be better able to engage science students holistically.

When we read the stories of others, we have the possibility to personally engage with the individual contexts and perspectives of their actions. There will always be something that we can use for our understanding from the life story of another (Goodson, 1980). The data gained from teachers’ stories can help others to gain perspective on their own lives and the understanding that there are multiple perspectives out of which teachers are motivated (Goodson, 1980). Each added

perspective helps the personality to grow and become potentially more integrated in itself.

It is therefore plausible that doing autoethnographies will encourage science teachers to integrate their personal experiences and inner beliefs with the science content that they teach. It will help science teachers and students to avoid creating parallel knowledge streams and to know themselves better through the content with which they work (Keane, 2008; Kimmerer, 2013). It will hopefully also lead to reforms in science education that will help to make the content more relatable to teachers and students (Avraamidou, 2014).

Science teachers' autoethnographies

The literature on stories and autoethnographies of science teachers is sparse. This sparsity is possibly partly due to the emergence of the autoethnography research field from within the humanities and its general adoption of the interpretivist paradigm which stands in opposition to science's positivism (Ryan, 2018). It might also be due to the focus of science which is not generally interested in the context of how its findings are made but on the findings themselves, related theories and their application. The 1933 Nobel Laureate physicist, Dirac, related that the scientist does not want to examine the processes, the number of failed attempts or wrong ideas that were pursued before finding the right experimental conditions to obtain their results (Holton, 1975).

There are many teacher autoethnographies, including teachers from different countries and who teach a variety of subjects. Teachers wrestle with ethnographic issues of race (Hughes, 2008), multi-culturalism (Jayne, 2015), multilingualism (Kennedy and Romo, 2013) and more. Teacher's autoethnographic studies tend to show the relationship between the teacher's lived experiences and their outer context (Farrell, Bourgeois-Law, Regehr and Ajjawi, 2015) and not interrogate the content that they teach or their existential wrestle with it as is done in this study.

Looking more directly at autoethnographies of science teachers, one study of African American science teachers in the USA took a critical perspective on their stories to explore power, knowledge and meaning as well as the language-use experiences of these teachers (Moore, 2003). Another USA study looked at the leadership role of the head science teacher within a school (Willis, 2010). Neither study investigated teachers' evolving relationship with their beliefs in relation to the subject content. A South African study looked into the biographical details of a biology teacher in relation to their changing identity (Jita, 2004). The focus of Jita's study was on their changing professional identity as a teacher and its influence on their teaching practice, not on their personal beliefs in relation to the taught content.

An autoethnography conducted in Mozambique looked at the role of local culture and values on the selection of content for the science curriculum. This study was a personal wrestle with the science curriculum inherited from Mozambique's colonial past (Nhalevilo, 2010) and how to decolonise it. In Nhalevilo's study, the examination of the content, although culturally and critically motivated, begins to address issues similar to my examination of the curriculum through religion and science. Nhalevilo's exploration of the science curriculum was done in relation to the beliefs and values of his culture.

Two Muslim women in the USA used poetry to examine their experiences within a world which often views them as potential terrorists (Elbelazi and Alharbi, 2019). This autoethnography used poetry, which echoes the inclusion of science poetry in my study, but the examination of this poetry will not be my primary focus.

One study that resonates strongly with what is addressed in this thesis is that of a biological science educator who positioned her autoethnographic story as a wrestle between science and her indigenous way of relating to nature (Kimmerer, 2013). Kimmerer grew up within her indigenous Native American community and side-lined this worldview when she adopted the one given by science while studying botanical sciences at university. Part of her journey of integrating her parallel realities of science and indigeneity, includes a story of planting beans and experiencing being

loved by nature as by a mother (Kimmerer, 2013:121-122). Kimmerer's story is directly relevant to my study as they both reflect an intimacy with nature and the wrestle to integrate internalised parallel knowledge streams (Keane, 2008).

I encountered no literature that explores the science content in relation to the beliefs and values inherent in the universal light of science and religion. Furthermore, there was no autoethnographic literature from within the relatively wealthy (very wealthy relative to the average South African), English, privileged White world of southern suburbs Cape Town, where the culture and values were more influenced by scientific rationale than almost any other factor (Bickford-Smith et al., 1999). I did not identify any autoethnographies in the literature of science teachers coming from my own or any other background, who wrestled in an attempt to reconcile science content, religious scriptures of various sources and personal or subjective religious experiences or convictions. This identifies a gap in the literature which I hope this study will begin to address.

In trying to address this gap, the postmodernist approach of rejecting absolute truth even of the idea of science being objective as a part of an autoethnography (Weideman, 2015) has been embraced. Siya Khumalo's wrestle through his personal story as well as scientific and religious ideas to find the layers of understanding as to why it is so hard to solve 2019 South African problems (Khumalo, 2019) also stands as a thematic model adopted by this study. Khumalo's conclusion, although not holistic, involves wrestling not physically or in the law courts, but on the subtle, metaphysical realm of ideas. Although Comte would regard this thinking as immature (Comte, 1976), this study will pursue its journey alongside Kimmerer and Khumalo and will frame the wrestle holistically within the personal story of an autoethnography as a science teacher.

Conclusion

This chapter opened with a broad range of ideas that can be imagined as holistically and evolutionarily linked between the conventional realms of objective, positivist, classical science and religious scriptures. The portal of our sense of sight was used

to show the transformation of light-wave stimuli which can be studied by positivist science, to the metaphysical sensations of colour and light for which we have no proof other than through our shared, direct experience. Using the guidance of religious texts, we then saw how this could lead through the portal of proper attention and reason to the light of understanding and meaning and perhaps through the portal of artistic intuition to enlightenment in some form.

The neurological phenomena of mirror neurons, synaesthesia and quantum entanglement were then used to discuss possible ways in which some people can communicate with animals or non-physical beings telepathically. Possible evidence for beings living independently of physical bodies for which there is only subjective proof was also briefly addressed through the phenomena of nature spirits, NDEs and reincarnation. The effect on brain development through the simultaneous use of holistic stimuli such as learning to play a musical instrument was also presented as a background to examining a potential physical and mental benefit to learning science holistically using story.

The broad range of human perception and learning covered shows how any attempt to wrestle for a holistic wreality needs to include as full a range of human experience as possible. The inclusion of personal, sensory, rational belief and super-sensory experiences, as well as academic, social and philosophical approaches to reality were presented as elements of reality that are relevant to this study.

A review of science and how it has evolved since the time of Newton was then reviewed in relation to how science is taught in South Africa. The review then moved to exploring science teachers' autoethnographies to give justification to the use of autoethnography in this study and to address some of the challenges faced by science education. The limited research into autoethnographies of science teachers who wrestle with their own beliefs was then established. The added positioning of this autoethnography from a privileged, English, White perspective in South Africa was then shown how this study is positioned to address a gap in the literature.

Chapter 4

Research design, methodology and methods

Introduction

The background to this research has been presented in the preceding chapters. My personal background of growing up privileged in the English-speaking world of southern suburbs Cape Town presented me with freedom from worldly survival challenges. My wrestle for wreality therefore became a metaphysical one which I tested using ideas within religion and science. The framework that I believe is needed for this task was refined while undertaking this study and presented in Chapter 2 as a particular understanding of holism. This led to the examination of many scientific and religious phenomena related to my holistic wreality, the literature of which was reviewed in Chapter 3. Chapter 3 ended with me identifying how my autoethnography brought the science curriculum into a meaningful conversation with religion and my personal experiences, and thereby addressed a gap in science teacher autoethnographic literature.

This chapter addresses the research design of my study as the theory used to clarify my research assumptions. A research design is needed to position a work within a scholarly framework so that it can be read within its intended context. This will be followed by an examination of autoethnography as my choice of research methodology. Methodology speaks to how research is conducted within the tested and accepted frameworks of academia.

The development of a Concept Map of Autoethnography as a visual representation for this field of study and its use in this thesis is then described. The relevant elements involved in my data creation and analysis and the writing of this thesis follow. The measures used to ensure trustworthiness and ethical standards are then addressed. A description of the details and use of the Wreality Wrestling Arena is then presented as the performative context for my data presentation and analysis. The Wreality Wrestling Arena was created to enable the dramatic way in which I

wish to present my autoethnography as well as the dialogical way in which I wanted to conduct my analysis.

Research design: Approach, paradigm, epistemology and ontology

My research is in the form of an autoethnography which, as a personal account of my lived experiences within my ethnographic context, is not objective or measurable, disqualifying it from being a quantitative study. My research approach is qualitative because the constructed data and its analysis are used to investigate the subjective meaning-making of my lived experiences within the context of my socio-cultural and ethnographic environment (Creswell and Poth, 2017). A qualitative study looks at the nature of a phenomenon, the qualities that it exhibits. These qualities can be physical, like colour, shape, design and so on, or, as in the case of this thesis, subjective and abstract, like thoughts and feelings relating to specific knowledge and experiences (Cohen, Manion and Morrison, 2007).

The research questions of how and why I wrestle for wreality are only possible to address through examining the data qualitatively to find underlying themes, codes, motivations and meanings (Cohen et al., 2007). The science content of this research was subjected to a positivist critique based on current scientific understandings to give it validation and confirmation, but, as it was not used to determine any quantifiable measure or proven universal theory, it did not affect the qualitative nature of this work. This is not a quantitative study as it engages with the humanities' hypothesis making, rather than scientific hypothesis testing (Samuels, 2017:24).

The advantage of an autoethnographical approach is that I have been free to incorporate the elements of reality from my relationship to my ethnographic world that I felt were relevant. The limitation of an autoethnography is that my own memories, priorities and interests within my societal context are foregrounded and aspects that may be relevant to the priorities of others may have been overlooked. This limitation, although enabling detailed responses to my research questions, makes it impossible for this study to generate generalisable or comprehensive findings (Creswell and Poth, 2017).

The word paradigm comes from Ancient Greece and its meaning is associated with patterns, but it usually means a set of ideas about how we are thinking about doing or making something (Killam, 2013) or the way in which we view and interact with the world. Paradigms reflect the relationship between our belief in how reality is constructed and the building of our knowledge and understanding of reality.

Within my qualitative study, my assumption is that each person builds their wreality out of a combination of their subjective and objective proofs, as discussed in Chapter 1. Current scientific facts and proofs account for only part of this reality. The idea that the only reality worth considering is the objective proofs obtained through positivism was promoted as a rejection of all forms of subjective proof, such as superstitious, theological and metaphysical beliefs (Comte, 1976). Comte, who lived from 1798 to 1857, regarded all forms of subjective proof as immature types of human thinking. His positivism was based solely on empirical observation and reason to find the laws governing phenomena (Comte, 1976). Comte realised that despite the benefits of his positivist approach, it would not lead to absolute truth.

For Immanuel Kant, our faculty of reason has the power to liberate the individual from needing any outer authority to determine reality (Kant, 2019). Kant, who died when Comte was six years old, berates humanity for the lack of courage to take up empowerment and liberation through thinking. Kant sees enlightenment arising through the use of reason in every field of human endeavour but believes that this must come mostly through the application of reason to religion. Kant saw religion as the most dangerous place to hold back from debate and new ideas. Comte (1976) wanted reason to have only outer observations as its working material. I therefore regard positivism as taking up the mantle of Kantian courageous thinking, but in a form which has fallen into Marxist materialism. As the biblical fall of Adam and Eve took humanity out of the intimate experience of paradise and replaced it with 'the knowledge of good and evil' (Genesis 2:17), so it seems that positivism takes us out of our possible liberated enlightenment through reason by limiting us to the knowledge of objective facts.

Positivism deliberately excludes all forms of subjective proof in order to establish what I call objective proof. This paradigm is not to be ignored just because the entire inner life of the human being, other than the use of our impersonal thinking and observations, is set aside. I have used positivism to help establish my holistic reality, and the science content of this thesis has been tested against current scientific understanding.

The interpretivist paradigm is an expression of a rejection of positivism and holds that each person creates and shapes their own wreality (Ryan, 2018). I regard this rejection as being as equally one-sided as positivism. Despite the potential paradigmatic tension that embracing positivism and interpretivism may seem to present, my study's holistic position recognises that here is a place for both. The holistic approaches of Aristotle, Steiner, Smuts and Goethe presented in Chapter 2 expects that we study and cross reference all available phenomena using the best tools available, including the positivist tools of modern science but acknowledge that the only reality that we can know is created in the human mind (Aristotle, 350 BC). However, since my study has as its focus the wrestle for wreality, and since the interpretivist paradigm rests on the fact that each person creates their wreality, interpretivism is a natural choice as the primary paradigm for this study. My life as a science teacher is also related to this as I hold that our wreality is shaped by our education as an important aspect of our ethnographic background.

In life, as in the science classroom, it is the individual mind that must make sense of its wreality. Paulo Freire (2000) argues that education, including science education, needs to present to the mind the possibility of consciously developing and strengthening the critical faculties that enable accurate, clear and independent perception, idea formulation and artistic integration of new knowledge with prior experiences. Freire argues for the individual to be given the opportunity and skills to keep building intimacy with their ethnographic world and their new learning. To achieve Freire's ideal, science education should enable the harmonising and disciplining of thinking, feeling and willing – the three human faculties used in the creation of our wreality (Easton, 1997). A further element that I regard as essential

to my use of interpretivism is our self-reflective conscience which, as a part of our wreality, is ever growing and evolving (Mirkin, 2016b). Our conscience helps us to weigh and value the various elements of our wreality as a mirror in which to reinterpret and organise our holistic wreality to find meaning in and intimacy with life.

The ontology or nature of reality that I therefore adopt in this study is that the human mind is the creator of its reality. My ontology is based on a combination of subjective and objective proofs, feedback from others and the findings of science and religious texts. This represents a holistic and relativist ontological approach, one which accepts that each person's wreality will be relative to their own experiences and their interpretation of these experiences (Hesse-Biber and Leavy, 2006). An example of relativism is the idea that an engineer will develop a different idea of a particular building, for example the Eiffel Tower, than will a historian or an artist because of their different interests and experiences. The findings of physics are also aligned with the idea of relativism. Einstein may have developed his theory of relativity based on thought experiments, but his theory has held up to experimental investigation (Born, 1962). In his book *Einstein's Theory of Relativity*, Born (1962), a 1955 Nobel Laureate in physics, notes that even observable reality has a measure of relativity to it. What relativism sees as our differing subjective realities, relativity recognises as something that is also true for the objective world. Relativism and relativity can thus both be expressed by saying that everything depends on context. This expression allows us to think objectively about our wreality, and yet we experience our wreality subjectively.

The intimacy of human experience inherent in my monist, holist theoretical framework is most clearly expressed in indigenous and religious ontologies. Indigenous ontologies tend to assume a human intimacy with their environment (Rosiek, Snyder and Pratt, 2020). Rosiek et al. express the Native American understanding that an indigenous group will not form their identity, meaning or reason for existence from a universal love of trees, mountains or any aspect of nature, but from their intimate relationship with particular trees, rivers, mountains

and more. This subjective intimacy with the environment is common to many indigenous cultures around the world such as in Australia (Kearney, 2018) and can lead to attitudes and caring for the environment in ways that enrich culture (Mazzocchi, 2020). By focusing on the subjective and personal nature of reality, indigenous ontologies embrace a personal religious/meaning-rich and universal practical/scientific approach to reality which builds individual identity while remaining in an intimate relationship with the environment. The integration of outer and inner realities in indigenous ontologies is monist and holistic in nature and shows a practical application of the relativist, interpretivist and subjective wreality of my study's research design.

In her paper 'Science Education and Worldview', Keane (2008) discusses the incorporation of indigenous knowledge into science education in South Africa and advocates for the need to incorporate student worldviews into the content. Keane uses the word 'worldview' in her title, meaning a culturally shared wreality that is broader than just the specific knowledge that it encompasses. Keane realised that science education potentially alienates students from their personal worldview by giving them universal content in a form that cannot be incorporated into what they already know. In this way, science forms a parallel knowledge stream, as mentioned in Chapter 3 and their wreality could become fragmented. Keane (2008) holds that modern science promotes a Western way of thinking which can be alien to students from other cultures. Aikenhead (1996), a Canadian who researches the challenges of how some students struggle to cross the border between their background worldview and that of science, says that even children from Western backgrounds often struggle with science. The backlash against scientific thinking within the West by Wordsworth (Mcfarland, 2014), Goethe (Seamon, 1998), Emerson (1836), Thoreau (2015), Smuts (1926) and others suggests that the West was possibly just the first to have their indigenous worldviews undermined by the impersonal, reductionist materialism taught internationally in most current science classrooms. The persecution of Western scientists over the ages, like Galileo (Brodrick, 1964), is further testimony to science not being inherently Western.

The inclusion of indigenous ontology in my research design represents one aspect of the experience of intimacy that I wish to embrace. A more individualised experience of intimacy and its relationship to our personality/Growing Self is expressed through religion, as presented in Chapter 1. Within Christianity, Islam and Judaism, we find the expression of individual separation from experiencing a harmonious oneness with the world as in the expulsion from paradise when Adam and Eve ate an apple from the tree of the knowledge of good and evil (Genesis 2:4-3:24). In Christianity, this idea is continued with the concept that we are all sinners and that this sin separates us from an intimate oneness with God. The Buddhist idea of being in paradise in an enlightened state is called *anatta* or non-self (Todd, 2015). Buddhism states, as does Judaism, Islam and Christianity, that our current state of separateness can be healed into an uninterrupted relation with oneness. These religions imply that if our relativist, interpretivist reality falls prey to identifying too strongly with separate aspects of our wreality, we may believe them to be our true self and then fail to experience the state of salvation, paradise, nirvana, enlightenment or the Kingdom of God. Our separated identity, what Smuts (1926) calls personality and I call the Growing Self, is Smuts's current pinnacle of holistic evolution. The above-mentioned religions allude to the fact that this personality is not our true self but an imposter of true self when we attach our identity too strongly with it.

I call the Buddhist enlightened non-self our authentic or Spirit Self. The Hindu concept for this Spirit Self is referred to as *atman*, the individualised part of Brahman or the spiritual world, and is described as being pure self or authentic self in the Yoga Upanishads (Srinivasa Ayyangar, 1938). In Christianity, the healing of our sinner aspects of Growing Self happens through being reborn. In Judaism, Islam, Hinduism and Buddhism, paradise or enlightenment is gained by following given laws and practices of prayer and study.

From these religions, it seems that beyond the substances presented by Smuts in his holism, there is a love-filled and flame-like²¹ substance (Exodus 2:3) that is already present within metaphysical reality and is due to manifest within worldly evolution. This substance, described in the New Testament at the event of Whitsun (Acts 2:4) is sometimes referred to as eternal and non-corruptible, as the Comforter, Spirit of Truth (John 15:26) or Holy Spirit. Near-death experiences describe this substance as a blindingly bright and incineratingly hot healing blessedness. My autoethnographic data and its analysis address this substance and its incorporation in my wreality.

The choice of relativism as my ontology is therefore holistic as it incorporates the idea that the inner interpretivist human mind shapes its wreality by including the outer positivistic observations of relativity in natural science. My ontology also recognises the lived or hoped for intimacy found in indigenous and religious knowledge. The identification of relativism as my ontology is, therefore, personally meaningful, broad and more holistic than is usually found in the social sciences (Creswell and Poth, 2017).

My research design thus assumes a holistic theoretical framework within which my qualitative study uses an interpretivist structuring of reality as my relativist, subjective wreality. This wreality strives to find the intimacy and oneness that I assume to be true in the manner expressed by indigenous and religious ontologies. I believe that this is the best approach for including all the important aspects of my wrestle for a holistic wreality through science and religion with the appropriate earnestness and intimacy.

Autoethnography as a methodology

Research methodology is the description of how the researcher goes about generating, presenting and analysing their data to address their research questions (Creswell and Poth, 2017). Research methodologies undergo a process of entry

²¹ As related with Moses's burning bush.

into the field of academia known as the inception phase, where the groundwork is laid for its methodological practices (Wiles, Crow and Pain, 2011). When researchers use the methodology, it undergoes adaptation, alteration and expansion to meet the needs of new research. Finally, it becomes adopted as a full and enriching research methodology by the international research community while still being able to be adapted to meet the needs of new research (Wiles et al., 2011). Before the concept of autoethnography emerged during the 1970s, various authors had wrestled with the legitimacy and ethics of using the first-person voice academically. Now, in 2021, autoethnography as a form of self-study is a methodology of its own and has achieved the status of adoption despite some researchers questioning its validity for sometimes being overly subjective (Atkinson, 1997; Campbell, 2017).

Those who recognise the importance and value of Plato's examined life or the inscription at the Temple of Apollo at Delphi of 'know thyself', embrace the subjectivity of autoethnography as a trustworthy examination of the individual human life within its lived context. Autoethnography as a research methodology and design is framed within the qualitative research methodology where the human lived experience is retold and critiqued (Chang, 2008). Each new autoethnography contributes to our growing comprehension of ethnographic worlds and individual lived experiences and contributes to academic theory and methodology in the process.

There are three key components to an autoethnography: the self (auto), the social-cultural-political-economic ethnographic world within which they find themselves (ethno), and the writing, graphing and analysis of the relationship between the two (graphy) (Adams, Ellis and Jones, 2017; Adams and Herrmann, 2020). An autoethnography is usually done by the self on the self in collaboration with co-constructors who add their perspective to shape the presented data. Autoethnography is thus a critical and interrogated self-reflexive look at the development of self in the context of life circumstances (Reed-Danahay, 2009),

where reflexivity is a cyclic self-examination of elements from one's lived experiences to understand their influence and importance in our lives.

The author decides how much emphasis to give to the auto and ethno in their study (Chang, 2008; Denshire, 2014) by positioning it towards being more of an ethnography or an autobiography, and this emphasis can shift as the study progresses (Denzin, 2014). This auto–ethno emphasis is one scale along which an autoethnography can position itself. An autoethnography can also be more analytical–rational in its approach or more emotional-evocative (Anderson, 2006; Stahlke Wall, 2016). The analytical autoethnography tries to find patterns or data to develop a generalised or universal theory, and the evocative intends to emotively move its reader through the lived reality presented. Other types of autoethnography are critical, which critiques and motivates for change in society in some form, or performative, which focuses on how the autoethnography is presented (Holman Jones, Adams and Ellis, 2013). Needing a graphic or visual representation to guide myself within autoethnography, I used autobiography–ethnography, and analytical–evocative as scales of a graph and began the creation of a concept map of this research field.

Rudolf Steiner, the founder of the Waldorf school movement, broadly and imaginatively conceptualised holistic education as involving thinking/head, feeling/heart and willing/doing/hand (Easton, 1997; Steiner, 1966). By associating Steiner's thinking with analytical autoethnographies and feeling with evocative elements, I looked for a type of autoethnography that might typify what he called willing. Critical autoethnography, which generally critiques various elements of society, are usually intended to motivate for change or action (Boylorn and Orbe, 2014). This emphasis on action helped me to identify the will of Steiner with criticality. The scale of analytical–evocative now became a scale of analytical/head–evocative/heart–critical/hand autoethnographies.

I arranged both scales onto a map. I positioned the autobiography–ethnography scale horizontally as it defines this field of study and the analytical–evocative–critical

scale vertically as it represents the thinking–feeling–willing faculties that we use to process, experience and express our stories.

Two significant concepts that kept appearing while reading autoethnography literature were verisimilitude and reflexivity (Chang, 2008; Denshire, 2014; Ellis and Bochner, 2000). Verisimilitude represents the effort made to give verification to the data. Verisimilitude is obtained from literature, one’s co-constructors who help to create the data, or others who know the author or the events presented in the data. Reflexivity is the need for the self to reflect critically, contextually and honestly with their story (Hesse-Biber and Leavy, 2006).²²

I associated verisimilitude with the ethnographic end of the horizontal scale as it involves perspectives given by other people, and reflexivity with the autobiography end as it is predominantly something that the researcher does themselves. I placed these concepts with other concepts from the literature (Babey, 2013; Muncey, 2010; Wiles et al., 2011) onto a single concept map. The ethnographic research concepts of insider (where data is gathered by someone doing research on a group of which they are a member) and outsider (where the researcher studies a group to which they do not belong) were placed where they seemed to fit best (Delamont, 2012).

My initial mapped arrangement of these concepts is shown in Figure 4.1.

²² Reflexivity and verisimilitude will be discussed in a more detailed review later in this chapter.

Initial Concept Map of Autoethnography

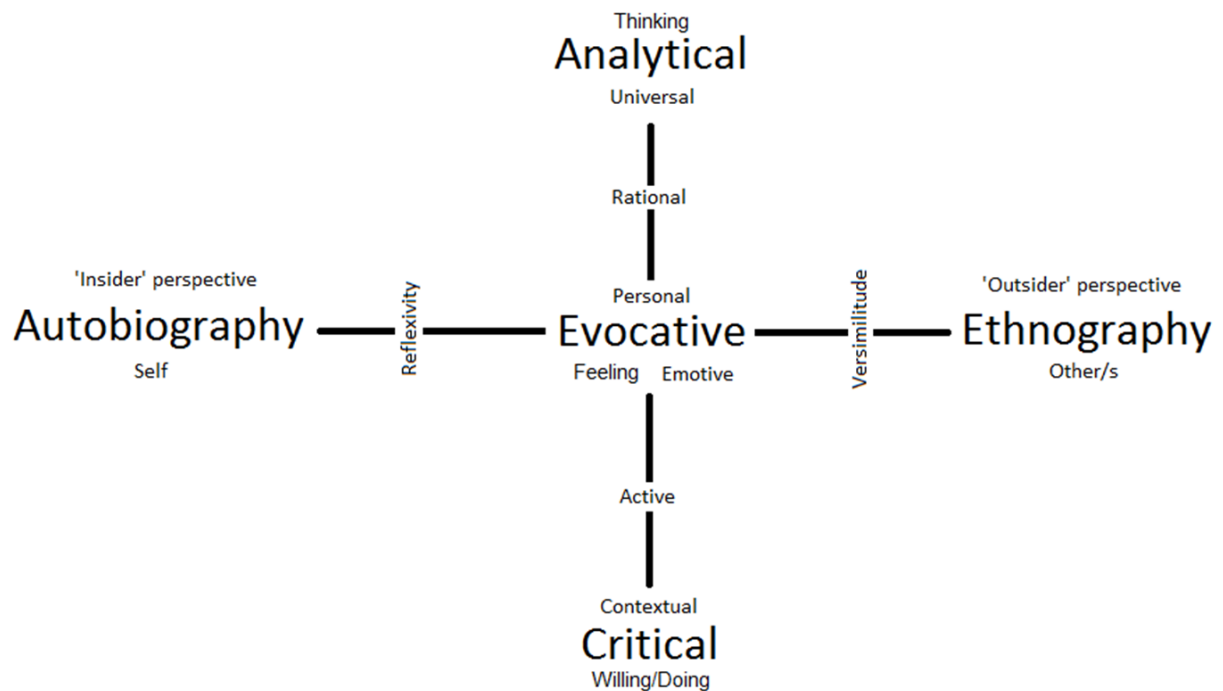


Figure 4.1: Initial Concept Map of Autoethnography

The placing of critical autoethnography on the end of the analytical–evocative scale resulted in evocative becoming the centre of both scales as seen above. This made sense to me as all autoethnography is personal, and the author is moved to write their story from their own personal perspective. Needing some external input to test this arrangement, I sent the concept map to Norman K. Denzin, Carolyn Ellis and William Sughrua all of whom are highly experienced in autoethnographic research. Sughrua (2019) was positive about it and we engaged further on aspects of his research to analyse critical autoethnography. Denzin responded with, ‘It works for me’ (Denzin and Sughrua, 2020), leading me to understand that he sees no difficulty in the creation of a diagram to represent autoethnography research as well as the particular representation used. Denzin (2018) then referred me to his book *Performance Autoethnography* in which he declares that all autoethnography is critical as it critiques and thus changes the self and the world in some way. Using the same thinking, I would say that autoethnography is also evocative and analytical

as each study requires some analysis to be valid research material and will surely move us if it carries the researchers lived reality. The vertical scale therefore becomes one of emphasis or intention rather than of exclusion (Stahlke Wall, 2016). Ellis (2020) was heart-warmingly positive, saying that ‘adding the “hand” works well’, indicating her appreciation for the addition of critical autoethnography to the analytical–evocative scale and saying that this map could be ‘helpful to folk’.

Subsequent to receiving this supportive feedback from experts, I realised that there was still the question of how to accommodate the source and presented data of a study on the map. Various forms of data sources are common in autoethnographic narratives such as reflective journaling, self-writing, interviews, videotaping and fieldwork (Hughes and Pennington, 2017), as well as memories and artefacts such as paintings, music, newspaper reports, personal writings and photographs. The source data is then shaped by the author and presented as the created data for their study in a multitude of different ways, including creative writing, poetry, music and other performance genre.

The presentation of created data, which is crucial to how the work is experienced, as well as the data sources, needed to be included on the map. Source data seemed to belong to a layer beneath the map, forming the underlying structure or solid ground of the autoethnography. The variety of ways in which authors present or perform their autoethnography, such as a ‘poetic autoethnography’ (Elbelazi and Alharbi, 2019), was placed above the map like its flower, fruit or seeds.

Concept Map of Autoethnography

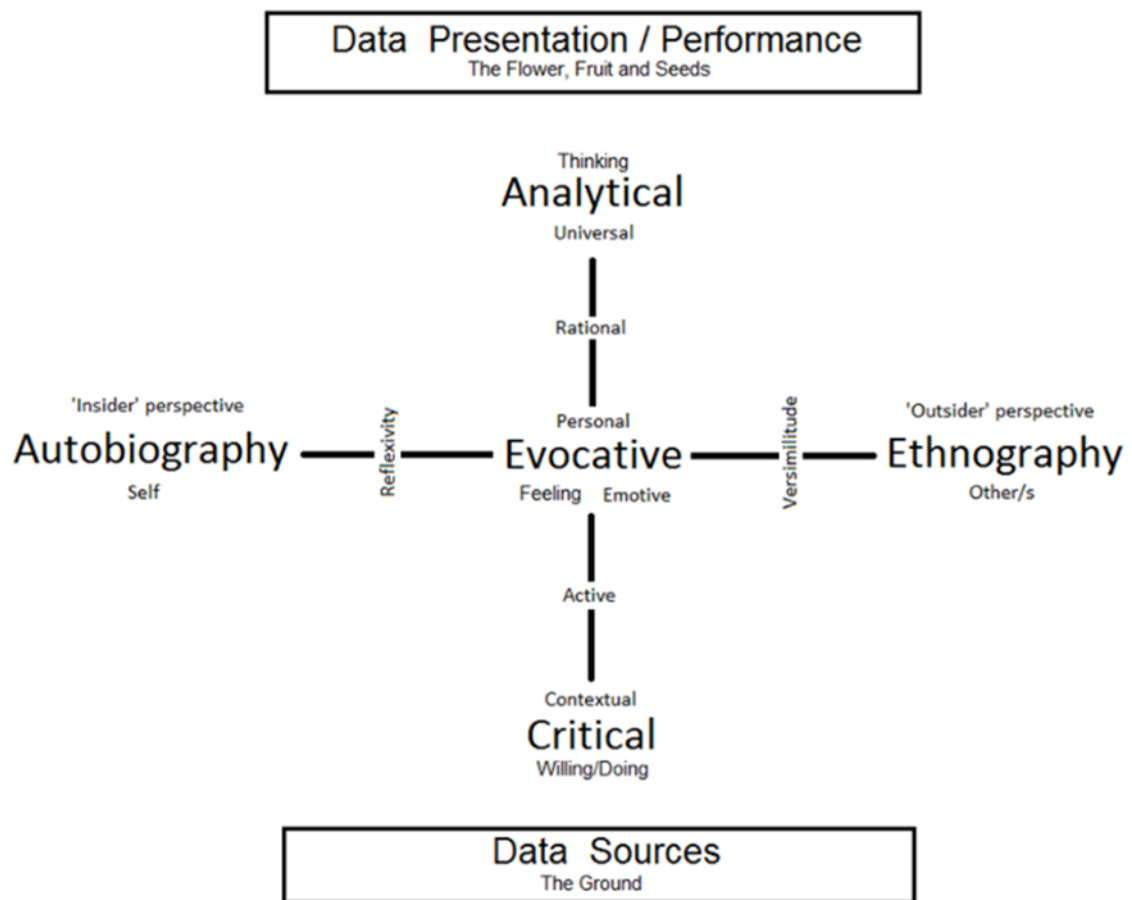


Figure 4.2: Final Concept Map of Autoethnography

Autoethnographies are often focused on ethnographic categories such as race, sex, sexual preference, language, religion and more. In the same way, an autoethnography may have its focus on the authors' biography like a personal epiphany or a particular personal event. Furthermore, some authors position their work as being predominantly analytical, evocative or critical. My autoethnography hopefully contains aspects of all these categories to reflect my holistic theoretical framework. By examining my study using this concept map in Chapter 6, when I work with my story (Ellis and Bochner, 2000), I will look to identify my autoethnographic emphases, biases and silences. This examination of my study will

give the Concept Map of Autoethnography a test of application while also enabling me to position and name my autoethnography.

The research methodology of my holistic autoethnography

This autoethnography presents and analyses my thoughts, feelings and actions in relation to my experiences and ethnographic environment as a science teacher who is wrestling for a holistic wreality through science and religion. Doing an autoethnography was suggested by my master's supervisor, Professor Rinelle Evans, who was wondering what it is about me and my background that makes me want to write science poetry. Soon after this suggestion, I chose autoethnography as my research methodology because I wished to reflect upon a broad range of influences on my personal journey of wrestling for a personally meaningful wreality in relation to science and religion. Autoethnography was the methodology that would enable me to include all and any story of my life that I believe informs this journey.

My research methods

For the remainder of this chapter, my approach to gathering and processing data will be described. This includes the creation of the Wreality Wrestling Arena, the stadium-type venue that I created to performatively present and analyse my data.

How I constructed and analysed my data

I have a crate of old documents dating back to my school days. The crate contains photographs, school reports, newspaper clippings, previous writings and feedback from my past students. This crate has been sorted many times over the years and now contains artefacts from most stages of my life but only those that I have deemed of great personal value. My first step towards gathering data for this study was to sift through this crate. Many of the artefacts used in my autoethnography came from this source, and the stimulation that going through the crate gave me helped me to recall other events of my life that I thought might be relevant to this study. I wrote down these stories, including events that I did not experience myself but that others

had told me, and so gathered a great body of raw data. This formed the initial step of data creation.

Co-constructors, people who know me well and/or shared particular lived experiences presented in Chapter 5, were then selected and approached to help with creating the data for this study. The initial sample of co-constructors was selected because they could provide new data, verisimilitude to data, verisimilitude as to whether the stories or my relationship to them were in accord with how I had spoken of them in the past, or whether the stories seemed realistic in relation to how they know me now. I used my existing means for contacting co-constructors with whom I had regular or semi-regular contact. I also made contact with co-constructors with whom I had not had contact for many years through family, friends, Facebook or by doing a Google search of their names. Most of those whom I wished to have as co-constructors were initially contactable. I did subsequently lose contact with two co-constructors. My co-constructor group was comprised of family members, current friends, old friends and a past teacher. Old school friends were particularly important as their verisimilitude gave me a lot of confidence in the trustworthiness of our joint memories of that time.

By showing them old artefacts and discussing specific events with my co-constructors, we aimed for agreement on what themes or codes the data represented. Discussions were held in person, where possible, otherwise over the telephone. Where differences of memory or opinion occurred, I would rewrite the story to what I believed was the agreed upon version and then sent it or read it to them, doing a final edit with their approval. In no instance was there any disagreement or dissatisfaction in deciding upon the final created data.

For my data selection and analysis, I made use of an approach used in qualitative studies compatible with autoethnography called grounded theory (Corbin and Strauss, 2008). Grounded theory does not presume what the research may reveal, but takes a free, open-minded approach to the initial data to find elements that seem

to belong together and categorises them under separate codes (Charmaz, 2014). These emergent codes are presented at the end of Chapter 6.

The initial analysis of the co-constructed data was done through a process of cross referencing for duplication of concept within the themes indicated in the title of this thesis. Where duplication of data occurred without the addition of anything significant, usually the more recent, but sometimes the less impactful, story was removed. I then identified several grounded theory codes and returned to the data for further elements that might fit each code. Data that did not directly address elements within any theme or code was then removed. The remaining data that contributed to my autoethnography and coded data are presented under the heading My Life Story in Chapter 5.

Some of my co-constructed data came from the publicly available archive of scientific findings and religious works. My science and education writings and poetry, biographical events, personal epiphanies, photographs, posters and identity documents, most of which had been recorded and stored in the crate that was used to initiate my data creation, were also used (Mirkin, 2021). The bulk of my data, however, consisted of my memories and those of my co-constructors. This was as a result of limited artefacts related to the created data existing beyond what was recalled by memory.

The literature reviewed in Chapter 3 arose from the initially identified codes as well as the themes that created the focus of this study. One code that helped to address the research questions, that of my being mildly autistic, was not reviewed as it emerged very late in this study and was of a most unexpected nature.

The trustworthiness of memory to accurately recall basic facts, general context or impact of an event is highly contested (Gould, 1991; Howe, 2011; Piaget, 1967). The use of memory in research must, therefore, be clearly contextualised as it will not be acceptable as a representation of objective proof. Our memories are influenced by a multitude of factors including age, education, belief, culture, interest

and profession. Memories are also dependent on events and our state of mind at the time of their formation, as well as further information that we might hear later. This said, memories, mistaken or one-sided as they often are, may be more real for us than the actual events because our recollection of events is what drives our attitudes and behaviour (Byatt and Wood, 2009). This study examines my wrestle for wreality and it is my memories as I recall them that influenced the nature of my wrestle. Furthermore, my memories reveal where my attention and priorities were focused during the time of formation.

Many factors influence memory formation, including our physical, emotional and empowerment positions as discussed in *Memory* (Byatt and Wood, 2009) and *Memory, History, Forgetting* (Ricoeur, 2004). I analysed the memories presented in this study relative to these factors. Although this research makes specific claims about my wreality and wrestle, I only intend to establish subjective proofs within the qualitative relativism of my subjective interpretivism. I recognise the limitations in all forms of reality, including those made by medical science (Albring, Wendt, Benson, Witzke, Kribben, Engler, Schedlowski and Sakakibara, 2012) and physical science (Barrow, 1999; Heisenberg, 1958) as being context specific. This is important to emphasise as all findings in this thesis are to be seen as subjective proofs of my own, even though other people may find that my findings reflect their wreality too. Certain limitations on the findings of this thesis are presented in Chapter 7, yet the full limitations will not be determinable from within this thesis, but only through others' testing them relative to their own interpretivist and relativist wrealities.

A clear demonstration of how untrustworthy memories are lies in the choice of the title for this thesis. I chose the words, 'teacher's wrestle for wreality through science and religion', thinking that they were entirely original. As I wrote this, on 14 April 2020, a full year and a half after selecting my title, I had just read, on page 214, the words, 'wrestling for reality', in a book that I last read about nine years ago (Steiner, 1992). Prior to this quote in Steiner's book, he had already discussed how science can work in a way that can add weight to religious texts. He had also mentioned that this wrestle is particularly important for those involved in education. I had forgotten

that I had previously read these ideas and believed that my title and study focus were original and based solely on my experiences as a science teacher. This is an example of how fraught memories are with problems, including being able to give credit where it is due. It is also an example of how specific memories work in subtle and subconscious ways and may give rise to beliefs and actions that we believe well up within us as original impulses. Having read Steiner's book again, I am now able to acknowledge him for possibly influencing my choice of title and the focus of this study. In this same book, Steiner also warned that when ideas come from certain sources, people tend to dismiss them because of inner preconceived ideas or prejudice (Steiner, 1992). Many of Steiner's ideas are still firmly rejected by current scientific and religious thinking. Perhaps the memory of having encountered these ideas in Steiner's book was suppressed because of my unconscious fear of possible negative perceptions by others.

In my study, although I did my best, I will not have given credit to all the used sources. This is not a deliberate act but simply because I have forgotten where they came from. I apologise for this in advance and put it down to the nature of memory and that my memory works like a scientist and generally tends to remember facts and concepts, and not the sources or processes that I followed to gain them (Holton, 1975).

Reflexivity and verisimilitude in how my data was co-constructed

The co-creation of the data was the initial process of gaining verisimilitude. A triangulation of memory, artefact and co-constructor input gave a good degree of trustworthiness to those aspects of the data that could be treated in that way. The lack of artefacts for much of the data left the verisimilitude to my own memory and that of my co-constructors. Although no problems were encountered in this process, there were occasional cases where no co-constructor could directly recall events, leading to the data lacking direct verisimilitude. There was no-one who could verify the stories from my time in the army, but my family and friends have heard me tell most of these in the past and so have commented on whether the account of these

stories has changed over time. Verisimilitude was also given by some co-constructors while Chapter 5 was being written, and several co-constructors including three close family members read the whole of Chapter 5 for a final act of verisimilitude.

Reflexivity, as mentioned earlier, involves the researcher critically reflecting on their lived experiences. Personal reflexivity (Willig, 2013) includes exploring how the researcher as an individual influences the research. The researcher's values, beliefs, background culture, personal experiences, fears, imaginations and dreams are all involved in the research process and it is important that the researcher examines these aspects and declares their influence to the best of their ability. In this research presentation, the representative of my personal reflexivity who represents me re-enacting my data of lived experiences is called Wreality Wrestler. Wreality Wrestler will relate my stories in Chapter 5 and then debate and critique them under the self-interview questioning of the Host who represents me in the role of researcher in Chapter 6. Table 4.1 below provides further details on Wreality Wrestler and the Host.

Reflexivity also involves ontological and epistemological reflexivity (Willig, 2013) which includes the researcher recognising and examining the assumptions that underpin their wreality. Through reflection and critique of their wreality, the researcher becomes aware of how these assumptions may have affected their research. In this research, which focuses on the wrestle for wreality, epistemological and ontological reflexivity play a central role and are brought to light by me in the role of researcher as the Host. Layer by layer, through self-interview questioning, the wrestle works to find what underlies particular elements in my wreality. In doing this, the data and its analysis address the nature of my wreality and the questions of how and why I undertook my wrestle for it. The Host also invites various experts to critique the data presented by Wreality Wrestler. These events are enacted on a stage called the Field of Engagement. The Host also briefly invites critique into the use of language of the Wreality Wrestler. Critical language awareness (Willig,

2013), which forms a part of reflexivity, helps to reveal both personal and epistemological assumptions on the part of Wreality Wrestler.

The major role of Wreality Wrestler is to develop a coherent wreality for himself through the events that are performed on the Field of Engagement. This wreality is created and represented in this research through the findings of Wreality Wrestler which are artistically presented as a shared vision in the final section of Chapter 5 titled, 400 Days on Land. In Chapter 6, the Host questions the assumptions, concepts and types of knowledge with which Wreality Wrestler engages (Willig, 2013). An analysis of the assumptions that Wreality Wrestler holds and uses as well as the type of knowledge that is produced by Wreality Wrestler is critiqued by the Host and the invited guests in the Commentary Box in Chapter 6. Verisimilitude was given by relevant co-constructors of the data for improving the accuracy of the data as described earlier. A further role of the Host is to invite some of those who provided verisimilitude into the Commentary Box to present aspects of the verisimilitude process.

I made use of self-interview in the Wreality Wrestling Arena to analyse the data and answer the research questions in Chapter 6. Self-interview is a useful approach to examine memory work as it enables the researcher to reflect on individual experiences in reference to other memories or research elements (Keightley, Pickering and Allett, 2012). By reflecting on memories without the pressure of perspectives and ideas from others, the path of interest of the researcher is followed, and, for my study, this created an extra layer to identify elements of my wreality. The co-constructed data was used to stimulate and provide a framing context for many of the self-interview questions and answers. This was done to give some trustworthiness to the process.

The initial self-interview questions were open-ended, introductory, conversational-type questions that were used to identify the context of specific data. These were followed by more directed questions about experience, feeling and knowledge while trying to be careful not to use leading questions, which could corrupt the data.

Avoiding too much emphasis on my natural personal bias in this process was achieved by occasionally including questions raised by my co-constructors. Further probing questions were used to get rich data through active listening for underlying influences where relevant. Having used self-interview, sample size saturation was not an issue, and the use of each type of question was limited to avoid oversaturation of the data (Weller, Vickers, Bernard, Blackburn, Borgatti, Gravlee and Johnson, 2018). Thematic saturation, that is, having sufficient data to establish that most of the possible emerging codes could be identified, was attempted through the great number of memories and artefacts presented. Theoretical saturation was attempted by restricting the data to the themes selected in the title, and the vast number of stories presented attempted to achieve this (O'Reilly and Parker, 2013).

In Chapters 6 and 7, the research findings draw on the literature researched in Chapter 3 and provide further references where needed (Burnard, Gill, Stewart, Treasure and Chadwick, 2008) to identify conformity and difference with previous research. I also express what this research means to me and respectfully argue where the new knowledge or gap in the literature is found.

Goethean holism in the creation of my autoethnography

My approach to writing this thesis was deliberately not pre-planned which allowed for a spontaneous unfolding. As an autoethnographer, I began my data creation as described earlier, including writing as many of my memories relating to science, education, religion, my ethnographic background, and my wrestle for wreality as seemed relevant. I began my literature review searching for the themes indicated in my title, and only later searched for literature on the codes as they began emerging from my stories. The fragmented and disconnected bits of research and writing that resulted were hard to place into any meaningful structure until I was around 200 days into this work. At this point my intuitive, artistic, dream-like imagination began to flood me with new insights as it found ways to integrate the phenomena of my research and co-constructed data. After 200 days, I formed the first clear way to use the evolutionary holism of Smuts with Goethe's intimacy between the inside and

the outside as the theoretical framework for this study (Smuts, 1926; Von Goethe et al., 1840). At this time I also created the first version of the Concept Map of Autoethnography, and my most powerful flood of insight emerged as the creative writing piece titled 200 Days at Sea which provided me with some solid foundation from which to proceed with my study. The two powerful bursts of intuition that occurred upon awaking from sleep happened within a week of each other and led to the writing of 200 Days at Sea. Although I did not realise it at the time, towards the end of this study I recognised that writing 200 Days at Sea was my way of giving myself permission to share many of the private and personal stories in My Life Story. All the above-mentioned manifestations that occurred roughly 200 days after I began this study felt like an inner upwelling of insights from my many recollections and literature readings in a way that feels related to Goethe experiencing his *Urplant* from his many observed phenomena (Von Goethe, 2009).

For roughly the next 15 months, I entered a new co-construction phase where the positioning of old and new content became easier. The end of this phase occurred once I had written up the entire thesis in a basic form so that I could begin to see it all as a whole from a bit of a distance. At this point, with the help of my supervisor and co-supervisor, the many edits began shaping the thesis into a coherent, meaningful whole.

Deciding what to exclude from my autoethnography

There are a great many authors who have written on elements related to the themes used in this study. Clearly I will not have read them all but decided to leave the few that I did read unmentioned. Only two readings will be presented here as examples of the thinking that I used to exclude certain literature. My decision to not include Tolstoy's *The Kingdom of God is Within* was difficult, particularly since he says, 'the significance of the gospel is hidden from believers by the church, from unbelievers by science' (Tolstoy, 2018:36). This idea is intimately connected to my analysis of science and religion earlier in this study, but to include Tolstoy's work would have

needed me to deeply research the cultural influences of science and various religious institutions in this study and I had already decided against doing so.

The struggle to decide on whether to include readings that I encountered became easier the further I progressed. One example of work that I decided to exclude close to the end of my study was the philosophical perspective of Matthew Segall (2021) whose work I encountered through his discussion with the philosophical psychologist John Vervaeke.

Segall presents the perspective of Alfred North Whitehead's philosophical views, originally published in 1929, on how reality came about (Whitehead and Sherburne, 1957). Whitehead and Segall's rejection of physicalism (akin to Marxist materialism) and emphasis on panpsychism (what I see as an aspect of religion) resonated with much of my understanding, including the fact that some of Segall's work also drew on Goethean science. Vervaeke also includes meditative practice in his work and I had seriously contemplated researching prayer and meditation practices for my study to show the transformative power of the mind on its experience of wreality (Mastropietro and Vervaeke, 2020). Segall and Vervaeke's work felt close to my heart and I wanted to include them, but it would have taken my focus in a different direction or made this thesis even longer than it already is.

Deciding how to present my autoethnographic data

I also struggled with how to present my data. Initially, I had considered using Socratic dialogue, as exemplified in Plato's works like *The Republic* or *Phaedo*, as the means of dramatic performance on the Field of Engagement. Socratic dialogue involves the asking of many questions, which, through a combination of logic and consent from those with whom he is debating, Socrates finds a path to arrive at some shared insight. The dance of thought that Plato creates, weaves between agreed upon scientific, rational facts and value-based, ethical, religious ideas of Greek mythology. This approach appealed to me as a means to wrestle for my wreality when analysing my data. Vervaeke calls Socratic dialogue 'dialogical debate', and uses it to address *The Meaning Crisis* (Vervaeke, 2021) in a manner

similar to Plato in his writings. Watching Vervaeke's current use of dialogical debate to holistically solve questions of meaning encouraged me further. This dialogical approach matched my main themes perfectly and the minor shift in the role of Wreality Wrestler and Host to Wreality Wrestler and Philosopher seemed feasible. Within this dialogical debate I also wished to introduce a Wreality Wrestler Devil's Advocate, who would cynically challenge any claims made by Wreality Wrestler of the Host. However, I decided against this approach mostly because I wished to separate the data presentation from its analysis as is common in academic theses. The length of debate that would have been required for the dialogical approach would also have meant that this already long thesis would have increased sizeably. In place of Socratic dialogue, and to achieve a similar effect, I used self-interview as mentioned earlier in this section.

Since I write science poetry, I further considered transforming my many stories into poetry. This choice, however, would have taken a great deal of extra time and limited the number of stories presented which would have prevented me from following Goethe's advice to present as large a number of phenomena around a theme as possible so that my ur-phenomena, the archetypal or guiding influences in the form of themes or codes, might emerge (Von Goethe et al., 1840).

Poetry, like religion, often makes use of metaphor, story or parable to convey its message. I have made extensive use of metaphor in presenting my created data in Chapter 5. The entire Chapter 5 is set as a metaphorical representation of my ideal ethnographic environment and my holistic theoretical framework. The chapter also begins with a parable on science and religion which is then explained. The alternating presentation of my created data in the form of a story or metaphor, and then a discussion or brief analysis of the data, is intended to represent a holistic breathing between a personal and artistic presentation, and a rational, logical critique of the data. Metaphor is first used at the start of Chapter 5 as a parable on science and religion. Metaphor is next used in presenting my process of beginning the writing of my autoethnography as a physical journey over the ocean in the attempt to find solid ground from which to begin.

The independent being that this thesis now represents has thus been birthed through a holistic back and forth between me and my co-constructors, metaphor and critique, as well as research, writing, editing and filling in the gaps. In this way, the whole work has been formed through the continual shaping and reshaping of my inner thoughts to match the outer manifestations of the literature on my co-constructed data. During the last year of this work, new insights and understandings emerged as this whole began to speak for itself, revealing connections not previously recognised or thought of. The volume and variety of the independent phenomena used have been an expression of the Goethean approach of allowing ur-ideas to emerge from a multitude of observations, some of which have been truly astounding for me (Von Goethe, 2009). These are presented in Chapters 6 and 7.

Wreality Wrestling Arena as performative methodology

The Wreality Wrestling Arena is the imaginary space where the data will be presented in Chapter 5 and analysed in Chapter 6.

The presentation and analysis of data will take place in the conceptually created Wreality Wrestling Arena. The Wreality Wrestling Arena (see Figure 4.3) can be imagined as a combination of two different arenas. The first is the modern sports stadium where there is a Commentary Box somewhere within the audience stands. The Host is positioned in this Commentary Box and he invites Wreality Wrestler and guests to comment on the events acted out on the Field of Engagement. The second image that will be helpful to conceptualise the Wreality Wrestling Arena is that of a drama theatre, where all types of stage, sound and lighting effects are used to present enacted scenes for the audience who encircle the stage.

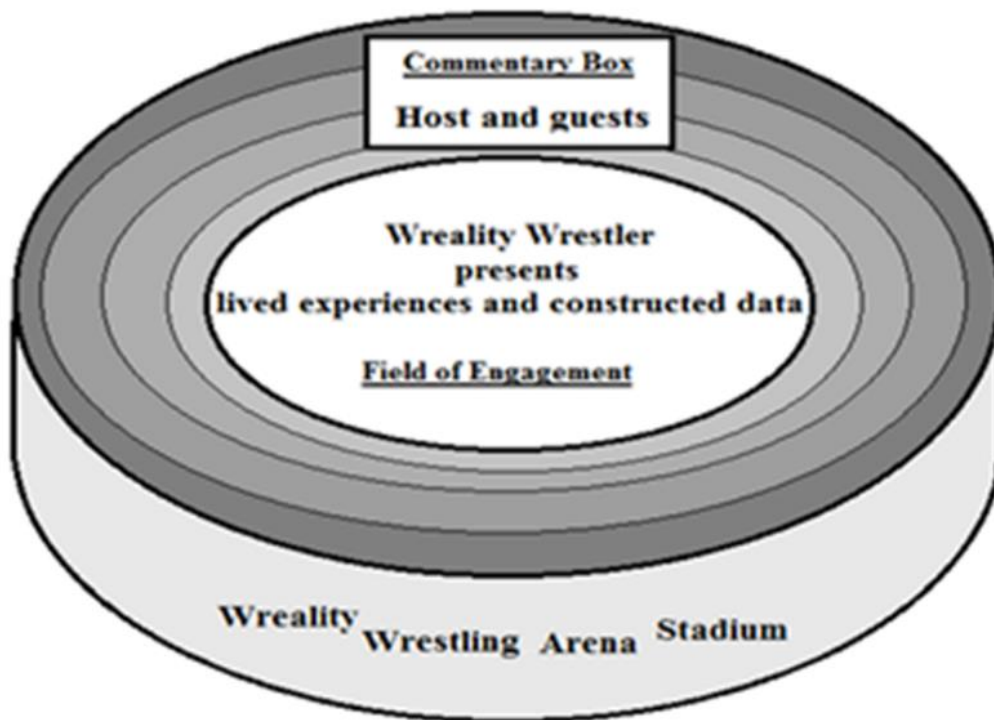


Figure 4.3: Visual representation of the Wreality Wrestling Arena

The performative presentation and analysis of the data will make use of the possibilities of both types of arenas with the emphasis more on dramatic theatrical elements during the data presentation in Chapter 5 and sports stadium Commentary Box discussions in Chapter 6.

The following table summarises the positioning and responsibilities of the various participants in the Wreality Wrestling Arena (WWA).

Table 4.1: The characters and their role, context and responsibilities within the WWA

Physical space where the activities take place	Character involved	Research role of the character	Responsibilities of the character
<p>Commentary Box or</p> <p>Field of Engagement (FoE) with mic in hand</p>	<p>Host</p>	<p>Represents me as the primary researcher in this thesis and not as participant.</p> <p>Performs the meta-analysis of the research data presented on the FoE.</p>	<ul style="list-style-type: none"> ○ Introduce and conclude the events on the FoE ○ Exhibit reflexive practices of self-interview, interrogation and analysis of Wreality Wrestler (WW) and his presentations ○ Invite expert-guests into the Commentary Box to do data analysis, interpretation and meta-analysis of the events portrayed on the FoE ○ Invite witness-guests into the Commentary Box to give their recollections of events presented on the FoE ○ Establish verisimilitude, contradictions or conflict between the witness-guest and WW's version of events ○ Reviews, summarises and concludes the events in the WWA
<p>Commentary Box</p>	<p>Expert-guests</p>	<p>Expert members from within the content fields that are debated on the FoE.</p> <p>Researched voices that are presented as active and present in the Commentary Box.</p>	<ul style="list-style-type: none"> ○ Critique the events and data presented and add perspective and context to the debate on the FoE ○ Comment on the trustworthiness of the engagement as well as show limitations and bias of WW. Place this research alongside established research and normative narratives
<p>Commentary Box</p>	<p>Witness-guests</p> <p>Co-constructors</p>	<p>People who witnessed the original events enacted on the FoE</p> <p>People who know me personally and present their opinion on the truth of what is presented.</p>	<ul style="list-style-type: none"> ○ Some verisimilitude will be debated with the feedback from the witness-guests. Other than my wife and parents (who are not named) and people who have passed away, all witness-guests are given

			pseudonyms to protect their identities
Field of Engagement (FoE)	Wreality Wrestler (WW)	<p>Presenter and debater of the co-constructed data.</p> <p>When labelled as WW7 he represents seven-year-old me. When named Wreality Wrestler, he represents the current, adult me who is writing this thesis.</p>	<ul style="list-style-type: none"> ○ As WW8, WW24 etc., to be as truthful to my memories, feelings and emotions of the originally lived experiences as possible at that age. ○ As Wreality Wrestler: to represent my current thoughts and responses as accurately as possible and to engage with meta-processing as prompted by the Host and guests.
Field of Engagement (FoE)	Participants	<p>Represent my mental constructs of particular people, fields of thought etc. When required, input was gained from my co-constructors when creating participants on the field.</p>	<ul style="list-style-type: none"> ○ To create a dynamic between different aspects of my own mental constructs within a story, participants were created to represent relevant people or concepts. ○ Participants do not deliberately conform to any norms or expectations, they demonstrate. as faithfully as possible. my personal view of what they represent.
WWA audience in the arena stands	Audience	<p>Respond to the events played out on the FoE as well as to the comments from the Commentary Box</p>	<ul style="list-style-type: none"> ○ They represent inhabitants of the land created in 200 Days at Sea. ○ They are witnesses to the events on the FoE and in the Commentary Box. They are created by me and used as a human presence to witness and respond to the presentations.

As mentioned earlier, autoethnographies may be presented using some form of performance (Denzin, 2018). Many authors use storytelling or narrative writing (Ellis and Bochner, 2000), but others use music and theatre (Muncey, 2010), poetry (Elbelazi and Alharbi, 2019) and more. The method of data presentation determines the way a study is experienced. I have used Denzin's example of creating performance narrative with real people whose voices are added by the author to personally comment on presented data (Denzin, 2018). In the Wreality Wrestling Arena, the voices of relevant real people are created to interact with each other. On the Field of Engagement, the voices are purely of my own making and reflect my understanding and wreality. In the Commentary Box, the voices represent the opinions and positions of real people either through their direct contribution or as artistically created representations of what is written in the literature (Denzin, 2018).

Applying Boal's Theatre of the Oppressed to data presentation

Challenges which are problematised by autoethnography authors usually come from race, law, religion, sex, age, economic disempowerment and so on (Adams et al., 2017; Hughes and Pennington, 2017). Augusto Boal's use of theatre as described in the book *Theatre of the Oppressed* (Cohen-Cruz and Schutzman, 1990) to process and transform participants' relationship to oppression was derived from Paulo Freire's *Pedagogy of the Oppressed* (Freire, 2000).

Boal's use of theatre to act out various oppressive experiences in a creatively constructed context allows the actors to create social norms or laws that are very different from those in which the original experiences occurred, enabling the actors and audience to see the world differently and to gain insight into their wreality. It also empowers the actors to recognise one of the more insidious aspects of oppression, the internalised policeman that makes us monitor our own actions even when the oppressors are not around (Boal, 1998). This liberation from our fear-trained and institutionalised behaviours is one of the fruits of acting out lived experiences from a fresh context and perspective.

In this thesis, the Wreality Wrestling Arena is positioned within such a created world, a world free from the expectations, beliefs and behaviours of my ethnographic background. This created world is a metaphorical manifestation of my ideal society and, as such, uses the liberation and free enactment from Boal's and Freire's work. One could argue that my privileged background may not require such a created world, but my experience says otherwise. Although some experiences of prejudice are presented in the data, the oppression that I experienced came mostly in what I experienced as the confusingly conceptualised and oppressive meanings, norms and worldview of my ethnographic environment rather than as oppressive laws or limited opportunities.

Trustworthiness and ethics

The use of reflexivity and verisimilitude helped to make my autoethnographic content trustworthy within the constraints of memory and subjectivity (Chang, 2008). My data was also subjected to scrutiny for its relevance to address my research questions, theoretical framework and purpose, and this supported the trustworthiness of my findings.

Triangulation of data is usually used by an author to determine some degree of universal reliability and validity of the data and the research findings (Carter, Bryant-Lukosius, Dicenso, Blythe and Neville, 2014). I have used triangulation to enhance the trustworthiness of the data and to reassure myself that, as a reflection of Plato's examined life (Plato, 1966), I could embrace my wreality with confidence. Triangulation can be used in the method, theory or data creation parts of a study. In this study, I have used triangulation in my data creation and analysis. I compared certain memories to other memories, to the memories of my co-constructors, to historical artefacts, to the academic literature, and to the findings of science and/or religious texts. I also used historical references to verify some of the memory data of myself and my co-constructors and to position data more accurately in space and time. The triangulation within my theory was done by drawing on science, religion,

personal experience and/or the experiences of others. Holism is the framework for arranging these three meaningfully together.

Ethical matters

Prior to starting my data creation phase in this study, I completed the rigorous ethical clearance process required for research by the University of Pretoria's Faculty of Education. This included investigating all possible ethical issues that may have arisen while doing the study as well as those that may have arisen subsequent to its completion. I was required to inform my co-constructors of all possible ethical issues and they then signed letters of consent to participate in the research. Once I had completed these tasks, the University of Pretoria's Faculty of Education ethics committee approved my application on 19 November 2019 with the reference number EDU075/19.

Ethically, autoethnography researchers must consider the harm that personal disclosures may have on themselves as well as others who are related to or associated with them (Roth, 2008; Stahlke Wall, 2016). During the creation of a thesis, verisimilitude helps to minimise the risk of harm because all the affected parties need to discuss the content, contribute to and approve the final version of what is reported. While establishing verisimilitude, consideration should also be given to the possible impact of the work after publication, as it may cause harm to the greater audience or from them to the author or co-constructors.

Prior to them engaging with my study, all my co-constructors signed letters of consent which informed them of the nature of the work and the possible implications it might have had on them despite pseudonyms being used for all living participants. Physical forms completed by those without internet were stored in a folder and completed forms from those who lived far away and had internet access were stored electronically. All co-constructors who engaged with me in this study were close family members or friends, including an old teacher, so mutual trust and willingness had been established before signing the letters of consent. My co-constructors were made aware that all approved content would be used in this thesis and might be

used in further publications. The philosophical nature of this study, the tolerant laws enshrined in the South African Constitution and the fact that many relevant stories were remembered by the relevant co-constructors, resulted in there being no ethical challenges for myself or my co-constructors.

The findings, although new to all of us and not fully agreed upon by some, were not anticipated to give rise to ethical challenges and did not present any. I worked to ensure that those who could potentially be affected by the data or findings were aware of such disclosures and given the opportunity to respond prior to submission, but few were required. Of particular concern was where, despite pseudonyms, individuals such as family members could be easily identified in the data. No affected individual denied their permission for any content to be used despite this possibility of identification. In no situation did I need to either remove the content or present the content in the form of a fictitious story set in a different context to make the original events and people non-identifiable while retaining verisimilitude. This option was offered and would have been used had it been necessary.

The changes suggested by my co-constructors were always discussed with them in a reasonable and responsible way. Had a co-constructor felt uncomfortable at any point, they knew that they could withdraw from participating and that all stories related to their discomfort would be withdrawn. Where relevant, I offered the option to not include a story when recalling difficult memories but this was always rejected. Situations where the content had personal significance or reflected difficult times was when all involved were the most appreciative for the opportunity to revisit these events. [See the Appendix]

Conclusion

This chapter laid out the research design, methodology and methods that were used in this study. The process of deciding on the structure and methods developed as the study progressed with a long period of time passing before I found any clarity on it. Accommodating the broad range of ideas and data included in this study required a clear focus on the primary intention of this study as an autoethnography

and a wrestle for wreality. The research design thus positioned this study as qualitative, interpretivist, and subjective from within the intimacy of a relativist, holistic, indigenous or religious ontology.

Autoethnography was the natural methodological choice for researching my personal wrestle for wreality. A review of this research field was presented and shaped into the Concept Map of Autoethnography which is used as a way to analyse the data in Chapter 6. The methodology used in this thesis includes elements of grounded theory as well as the accepted autoethnographic tools of reflexivity and verisimilitude for data creation, presentation and analysis. Some of the dynamics of how the journey of creating this thesis proceeded were presented in this chapter, as were some of the challenges in deciding on the direction the journey should take. This journey showed itself to be an expression of aspects of Goethean holism.

The main source of data that is used in this thesis are my memories and those of my co-constructors. This memory data is positioned alongside various artefacts. The data presentation and its analysis is then described as occurring in a performance arena called the Wreality Wrestling Arena using creative writing, narrative, interviews and artefacts. The Wreality Wrestling Arena provides a performance theatre ambiance for the data presentation and an interview studio from a sports stadium for the data analysis. The use of the arena allows me to create a metaphorical world that represents my theoretical framework and ideal ethnographic environment as an aspect of Boal's theatre of the oppressed.

The Wreality Wrestling Arena and the creative metaphorical environment within which the arena is placed, together with voices from the literature engaging responsively to questions in the Commentary Box, form my original contribution to autoethnographic methodology. This thesis adds to autoethnographic theory with the concept of wreality, as discussed earlier in this work, and the Concept Map of Autoethnography.

The chapter that follows will use the research design and methodology to present my autoethnography within the Wreality Wrestling Arena.

Chapter 5

My wrestle for a holistic wreality through science and religion

Introduction

This chapter is the presentation of memories and artefacts related to my autoethnographic wrestle for a holistic wreality through science and religion. The co-constructed data presented under the heading 'My Life Story' has its focus on the experiences that impacted my wreality related to ethnography, education, science and religion. This data has already been filtered and analysed as described in Chapter 4. It is presented using a combination of metaphor, creative writing, story, narrative, performance, poetry and self-interview, all of which are dramatically presented within the Wreality Wrestling Arena. The setting of the arena is in the metaphorical land to which you will be introduced in '200 Days at Sea'. The audience in the arena must be imagined as the inhabitants of that land.

This chapter begins with a metaphoric, artistic introduction representing my wreality of the relationship between science and religion when I started this study. It is in the form of a parable followed by a brief explanation. The metaphorical, creative writing piece that comes second, 200 Days at Sea, represents my academic wrestle to find a way to present the wide-ranging elements of my wreality before I wrote the stories of my autoethnography. 200 Days at Sea ends with 'The Great Festival', a dramatic metaphorical representation of my understanding of the holism that I developed out of Smuts' and Goethean holism as presented in Chapter 2. This creative writing is followed by the central element in this chapter, My Life Story, where the relevant autoethnographic events of my life are presented in chronological order. The final section of this chapter which bookends My Life Story is titled '400 Days on Land'. This section begins the analysis of My Life Story by referencing some aspects of it with the experiences of others who add comment on it. 400 Days on Land ends with a further metaphorical imagination called the 'Farewell Vision', which represents the

new holistic wreality about human evolution that arose for me after working through My Life Story.

Dramatised metaphor of my relationship to science, religion and education to declare my focus and bias

[The lights come up on the FoE, showing a scene of rocky hills, bustling cities and rich agricultural fields.]

And from the hills a great cry is heard, ‘Almighty Lord. Guide us, please, for we are blind.’ And from the cities, an answer cuts through the air, ‘You fools. Come down from the hills. There is work to be done and we have enough insight to be getting on with.’ All the while, those rhythmically swinging their scythes in the fields quietly sing, ‘When the aimless blade of science slashed the pearly gates’ (Young, 1979).

[WW23 stands in the middle of the FoE and speaks as the other participants on the field stand frozen.]

WW:²⁴ Science and religion are not at war although there are many who think they are (Coyne, 2018; Dawkins, 2008). Also, formal schooling of the masses and the needs of the individual are not enemies although many experience this to be so. Things are not as they seem and appearances are but an illusion. Even the Gods who strengthen us are but our projections of things that we cannot yet know but which we feel to be real. Those blinded by materialism (pointing towards those in the cities) reject these projections as though the unseen does not exist, and others (pointing towards those on the hills), blinded by religious dogma, cling to these projections as though life itself depends on it. The religious scientist (gesturing towards those in the fields) engages and cross-references all of reality with the open vulnerability of a

²³ When these descriptions of events are given, I, as the adult Wreality Wrestler, is written as WW. When I, as the adult Wreality Wrestler, comment or reflect on events presented, it is done within the text and I am denoted as Wreality Wrestler.

²⁴ Indented text in this format denotes adult me as Wreality Wrestler addressing the audience.

child, the mental presence and compassion of a monk, and the scepticism of a scientist.

200 Days at Sea

[The FoE is plunged into total darkness as the title of this first piece is projected onto the field. The lights come up again. WW is in the centre of the FoE at his writing desk. He speaks...]

200 days ago, I set out in search of new land.

The homeland of my wreality.

Today, Friday 24 May 2019, after working on this study for 200 days, I am writing. My single commitment for the day, a seminar, has been cancelled. Even my lectures have finished for the semester but none of this is why I am writing...

[Scene of a vast ocean appears on the FoE. These are added to and changed to fit the images expressed in the speech.]

I have been at sea. A sea of readings and conversations and experiences. I set out in search of a new land, one that could form the ideal ethnographic foundation upon which to present my autoethnographic study. I needed it before I could start writing and I trusted that I would recognise it when I found it.

For 200 days, it was mostly just ocean; a never-ending meeting of shapes that kept changing, of movement, a perpetual rise and fall, of storm and wind and rain, of calm and sky. Each weather as powerful and beautiful and blessed and scary and overwhelming as the next. On the ocean, the weather shook us right through, cleansing our gut, fighting with our survival, a reminder to hold onto our resolve that 'the Son of man', the human who wishes to journey as an independent being born out of our inherited humanity, 'hath not where to lay his head' (Mathew 8:20).

Each sighting of land lifted my heart with hope. Landing on its shores, I would leap and run with the mind of a child – the Bible tells us this is the way to do it – tasting

and smelling and looking and loving and lost in small words captured in mountain-range sentences.²⁵ And I wrestled with the landscape to see if it represented all the elements that my land needed. From the peaks, I experienced the land's magic vistas and limitations, each being beautiful and rich was yet but an island and not yet my land. So back on the ocean of new readings, new names, new whole oceans of thought and experience; new hope, new trust, new faith; renewed resolve to become a Son of man.

The signs were there before the landing, before even the sighting of the land. Things began to feel familiar; the weather, the warmth ... The smell was faint but already the outer-new on the wind was met with an inner echo of recognition, of knowing where this belongs, of home. The indescribable comfort of yourself coming to meet you in a new world; the upwelling of bliss from a song that releases you to dance with fullness of heart and mind.

I am writing because I'm back on land – a good land to be sure. My new land seems mostly unpopulated and unshaped – I have yet to explore it – but its solid steadiness underfoot and that smell of rightness gives me confidence that now is the time to start writing. I can still feel the motion of months on the water and I know that I must write now while the two worlds are alive in me; the journey and the arrival, the sea and the land, the familiar and the unknown, the inner and the outer, while I am both moved and grounded.

My Land

This new land at first appears as the land of Goethe's and Schiller's Germany. Germany at the end of the 1700s and first half of the 1800s. It is a land where science and idealism foster a liberation from nationalism and prejudice and manifest great musical, philosophical and literary achievements.

²⁵ This is a reference to the literature that I was reading for this thesis.

Upon our landing, I and my fellow travellers are greeted by a small group of women with wrinkled faces. Kindly, they ask us how it is that we have come to their land. We answer that we are on a quest to find a wreality through science and religion that is compatible with the current developmental and environmental needs of the children that we teach. Their faces shine at this answer and they move to stand as one and bless our arrival with poetry. They warmly chant... *[The chant is in German, but this is a rough English translation.]*

He who possesses science and art, possesses religion as well;
He who possesses neither of these, had better have religion.

Johannes Wolfgang von Goethe (Von Goethe, 2006)

When I tell them that I am a science teacher and explain that the thoughts of Rudolf Steiner, who gained his PhD exploring the work of Goethe, has helped to guide our way, they regroup and sing...

If nature study be your goal
Take note: a single part reflects the whole.
Nought is within and nought without,
For what is in is also out.

So grasp without delay this prize
That here a holy secret lies
Rejoice in true illusions fame.
Rejoice in nature's serious game.
No living thing alone can be – It only exists in company.

(Von Goethe, 1994:159)

Their interest in us is almost as interesting as they are. They do not wish to say much more about themselves but want to show us many things on the land. Over the next few days we explore their small village community, helping out with the children, the elderly, food gardens, animals and the daily tasks. They have a simple life. They get up with the sun and have only candlelight after dark. After the evening meal, they gather with a simple prayer, which is followed by readings from their great books, conversations about what was read, discussions about the activities and experiences of the day and finally with what needs to be done the following day. Over the weekends, we see the full richness of their cultural life in musical performances, drama and other artistic presentations. Their community engagement fills them with comfort, compassion, insight and openness to life.

After some weeks we begin exploring the land and find other small communities. We encounter a village where we are greeted in English with a poem by Wordsworth that he wrote circa 1802 in response to the First Industrial Revolution, asking whether it is this experience that has led us to them.

The world is too much with us; late and soon,
Getting and spending, we lay waste our powers;
Little we see in Nature that is ours;
We have given our hearts away, a sordid boon!
This Sea that bares her bosom to the moon;
The winds that will be howling at all hours,
And are up-gathered now like sleeping flowers;
For this, for everything, we are out of tune;
It moves us not. Great God! I'd rather be
A Pagan suckled in a creed outworn;
So might I, standing on this pleasant lea,

Have glimpses that would make me less forlorn;
Have sight of Proteus rising from the sea;
Or hear old Triton blow his wreathèd horn.

(Wordsworth, 2015)

We are moved by their understanding of our desperate wish to re-enliven the barrenness of the materialistically inspired understanding of life that is so dominant in current science education. We stay with them for a few weeks, discussing other writers, poets and philosophers like Shakespeare and Yeats. Their lives are similar to that of the German group and we notice that they are slightly more involved with thinking and philosophy than the practical, artistic and heartfelt lives of the Germans. Before moving on, we discuss our great South African statesman Jan Smuts, for whom they have great affection owing to his status as one of the finest graduates of Cambridge University and his gallant fight against them in the South African War (Hancock, 1962). It seems that Smuts is more revered by them than he is in our own South Africa.

The next group we encounter greets us with song. They sing in American of the free human spirit that lives on great open plains and a life in the wild. In the evenings, they read from the great leaders of the native Americans as well as the transcendentalist Ralph Waldo Emerson and his close friend Henry David Thoreau. Thoreau had set off into the wild in search of an answer to the question of how to integrate our scientific consciousness into a life intimate with nature as expressed by native Americans (Walls, 1995). The writings of the great personality Walt Whitman also feature strongly. When we mention that Jan Smuts was an admirer of Whitman's great personality,²⁶ they express their admiration for Smuts and his pioneering work in forming the League of Nations and the United Nations (Hancock,

²⁶ In 2011, I was given permission to enter his personal library in his home in Pretoria, where I saw several Walt Whitman books. His home was a simple, semi-rural farmstead and the central room of the house was his library.

1962). Although each of these groups has encountered Jan Smuts, none have heard of his philosophy of holism and are eager to hear more.

Another American village is filled with song and rhythm; a village with 'Black folk religion' that was born as a spiritual salvation within slavery (Sales, 2019). Here, the people talk with us about how outer liberation from slavery did not liberate some of those who lost their Black folk religion, but potentially enslaved them in a world of drugs, crime and meaninglessness. Here, we spend most of our days working to the rhythm of song which uplifts our spirit and keeps us going for long hours without tiring.

In this land, one aspect that seems common to all the groups is that the split between the religious search within and the scientific search without is rejected as a true illusion. They say that our inner work gives us the clarity to know what outer work needs doing and fills it with purpose.

The land is not well populated outside of small villages, and most people who come here are put off by what they perceive as the overly romantic fascinations of the people. No easy or quick fix to problems are to be found in this land, and any idea of getting rich quick or becoming famous through your gifts must be left behind on your arrival. Storms and sickness take lives and the meagre protections they use against these attacks leave most visitors feeling threatened and vulnerable. These people are hardworking and perseverant, and they expect the same selfless devotion from visitors. Needless to say, not many stay and embrace this wreality. We wonder to ourselves if we have the strength and courage to last.

Other villages exist with people from Africa, South America, Asia and Oceania. Among these are also Asian villages where we stay for some time. At one village, the people follow the great wisdom of the Veda; at another, they live according to the Buddhist Forest tradition; at another, they live a Taoist life with nature; and at a fourth, there is large community living a sophisticated cultural and political life following Confucian self-discipline.

On our journey, we encounter archaeological digs that reveal the presence of the ancient Greek philosophers, particularly Pythagoras, Socrates, Plato and Aristotle.

The Great Festival

After a year on this land, we are still living with the German community whom we first met, and it is time for the Great Festival. We had just missed the festival upon our arrival and now, a year later, we learn that all these communities share this one festival which unites them and their work. En route to the festival, we walk over many hills, through many valleys, past majestic vistas and small excited brooks. Each part of nature speaks to the listening souls on their pilgrimage.

At last we arrive at the Great Hall. It has been built in time immemorial and takes on a different shape and appearance for each participant. For me, the outside looks like a cathedral, where one enters with awe and reverence. The inside looks like a ceilinged circular amphitheatre with steps leading up to a central pillar where stands a sculpture of the Christ, who represents the archetypal or ideal human being towards which we can strive. Beside Him is the Father depicted as various forms and forces of nature and the great cosmos, and the Holy Spirit depicted as a burning flame with a human face, the Trinity. At their feet are the 12 Christian apostles and the 12 tribes of Israel, and above are the 12 signs of the Zodiac with the 12 Buddhist bodhisattvas among whom I recognise Gautama Buddha, possibly the original bringer of an enlightened, compassion-filled, fully developed human conscience (Steiner, 1909). Below the apostles are the great leaders of humanity, the founders of the great religions, great prophets, kings, chiefs and visionaries; many characters from the Old Testament but a greater many from cultures and people I do not know. Among them I recognise Mahatma Gandhi, Nelson Mandela and Te Whiti of the Māori. An equal number of women stand there and I am embarrassed to say that other than Joan of Arc and Mother Teresa, I recognise almost none. We stand some distance from the bottom of the steps among a great throng of ordinary people from across the land. Many more than I had imagined live here and from villages I have

yet to visit. Above our heads on the ceiling are magnificently carved and painted angels, fairies and spiritual beings of all kinds.

A slow chanting which fills the hall with a resonance that warms my skin begins among the people. The atmosphere becomes illuminated with a soft light like that of many candles, though I can see none. My vision grows blurry and I can no longer see the whole hall but only that which is nearby or in isolated places where the light seems brighter.

At the feet of the Christ, King David and many indigenous leaders stand up and start to sing. They sing like grass in the wind and rivers both soft and wild, like erupting volcanoes and silent stars, like vast plains and cracking glaciers. Much of the music comes from behind me and I turn to look. Having followed the people into the hall, a great variety of animals are singing their songs of praise, and yet further back, as the hall now stretches a great many miles, are the plants, and beyond them, representatives of the other kingdoms of nature all sounding their music in harmony. And a voice from the Trinity fills the music and speaks words similar to Luke 2:14, 'Comfort thou heart with peace, O people of goodwill.' At this, all the kingdoms of the Earth begin to mingle and we find ourselves among the multiple environments of nature and yet still within the Great Hall.

Out of the group at the feet of the Christ now rises King Solomon and all the wise of humanity. Their gaze becomes a light within the chanting. The presence of greatness and the clarity of chiming bells brighten the hall. The sound arises from all in the hall. As I look up, I see that the angels and beings overhead are now singing and moving free of their fixed carvings. A voice from the Trinity speaks into the sounding and fills our awakened vision with, 'Fill thy mind with the Light that enlightens the wise heads of Kings.' At these words, the angelic world above descends upon us as we ascend towards them. The singing and chanting is now filled with rejoicing as the clear vision and warm intimacy of angel and nature speak through the art, music, poetry and dance of the great artists.

My heart swells. I am home at last. My compassion and love for angel, human and nature expands my soul and I am at one with all. I am angel and horse, storm and mountain, saint and murderer, atom and mother – I am a microcosm of the macrocosmic All, son of Earth, Man and God, child of the great Universe. At finding myself in the All, my heart cries out with the sound of joyous pain, ‘Who am I?’ Through the great sounding, I hear a gentle reply from the only presence that has not joined the macrocosmic embrace, the lone figure who stands in the centre of it all and who waits for my question. With the force of a roar but the volume of an intimate whisper, I hear above the noise, ‘I am.’ And I know, I am free; I am because He is and in Him I see my future, my true self, my Spirit Self and more. Feeling my power and intimacy with All, I embracingly call out through my sphinx-like, form-changing body, now bull, now lion, now eagle, now human -- I am. And all the world replies in great chorus, ‘I see you.’ And, at this calling, the world around me falls dark and silent.

I find myself huddled on the floor encircled by loving friends. My face is wet with tears of joy and pain, of being both broken and whole, lost and found. One of my friends looks at me earnestly and says, ‘You have had the vision. You have prepared yourself and been found worthy. Blessed are you and blessed are we. One day, when we have matured, we will live permanently with the reality you have experienced. This is the second birth, the enlightenment.’

Slowly we rise, leave the Hall, and head back down the path in a similar reverent quiet with which we arrived; they having re-experienced in a new way what they already knew, I having experienced for the first time what I already knew. All is one and one bears all. We pass a group of beautiful women from an African village. Through my heart they sing of Ubuntu, ‘I am because you are. Blessed am I, because blessed are you’, while the men dance and sing with rising legs, wide smiles and bright eyes.

[The lights fade and when they come up again the whole scene has disappeared except for the dancers and singers. WW joins the rhythmic men

and women in the middle of the FoE. They continue to sing quietly as the audience silently, peacefully exit the Wreality Wrestling Arena.]

My Life Story

[It is the next evening. WW steps onto the FoE.]

WW: Welcome, dear Friends. Today we will look at some of the significant and critical life encounters which inform my evolving autoethnographic wrestle for a holistic wreality through science and religion.

[The arena lights fade and spotlights come up on the two young adults who will become Wreality Wrestler's parents. They are sitting on a blanket in a park in London, England, on a beautiful summer's day.]



Figure 5.1: WW's mother and father at the time of their courtship in London. The photograph of his mother inspired the created story that follows (Mirkin, 2021).

A man and woman are sitting on a blanket in a park in London. They are sharing a picnic. They look lovingly into each other's eyes. The view pans into the eyes of the woman and through them we see into the world that is living behind. We feel her love for the man. Behind this love are two pictures; in one they are getting married in a Catholic church, in the other they separate and she keeps her love as a hope. Moving through these pictures we see her as a young girl living in Spain watching her beloved Catholic church burn as a mob, spurred on by elected officials in the Spanish Civil War, shout communist slogans and fire their weapons into the air. The Spanish Civil War, 1936 to 1939, was fought between the left-leaning Republican government and the conservative nationalistic military of Franco. Her father is a general in Franco's fascist army who fought and won against the communist government. The family moves to Morocco after the war where she is happy and free to go to church in peace. She is 17 years old. Here she meets people of different cultures and religions for the first time and makes close friends with some. She now moves to London to become a nurse and to keep exploring other languages and cultures.

We move back to the double picture of marriage or separation and feel her strength and clarity of resolution to either marry in the church or to separate. We move out from her mind and see on her face the strength of her resolve matching her adoration for the man, both of which radiate with love and trust. The picture changes as we now move through the man's eyes into his mind. He has moved to London en route to Edinburgh, Scotland, where he plans to study to become an accountant. We see the clarity that 'this is the woman for me'. He is filled with love and yet there is the matter of what to do about this 'church business', because he feels that he would have to betray his Jewish background to convert to Christianity. We pass through this picture and see the man as a four-year-old boy in his father's shop in Adelaide, South Africa. The Adelaide of this four-year-old is a mostly Afrikaans-speaking, small rural town. He is holding onto his father's leg²⁷. There are three

²⁷ This is WWs father holding onto WWs grandfathers leg.

angry men in their 20s and 30s shouting at his father with evil in their eyes. They are shouting at him in Afrikaans that when Hitler wins the war they will smash his shop and come for him and his family. The boy stands frozen with fear.



Figure 5.2: WW's father as a baby with mother in Adelaide (Mirkin, 2021).

We are still in the mans' mind, and now see him as one of two primary school boys, barefoot and in khaki short pants, fighting and rolling in the dust on the side of a farm road. They get up with blood on their fists and faces and, as they part, the one says 'Blerrie Jood' (bloody Jew), and the fists fly some more. He and his brother now avoid walking through certain parts of Adelaide where Jews are not safe. He finds that many Afrikaners hate Jews but many other Afrikaners value Jews as God's chosen people.

We move behind this picture and see the man's parents – Wreality Wrestler's paternal grandparents – as young children walking with their remaining possessions down a dirt road in Vilna, Lithuania (Domnitch, 2015).²⁸ They are poor and starving.

²⁸ A major expulsion of the Jews took place with little warning in 1915 as the German forces approached Lithuania because the retreating Russian forces believed that the Jews were traitors.

We see his mother and father walking with their parents, and, in his imagination, their ancestors trail behind. Prayer books and sacred scrolls tied in rope-bundles hang over the men's shoulders as they sing mournful Hebrew songs about loss, and hope of a new life one day in Jerusalem. As this picture fades, it is replaced with pictures of starved faces and piles of the dead in the Nazi concentration camps of World War II.

We pan back out and see the young man's dilemma, the choice he must make. Marry her in the church without converting and promise to raise his children Catholic, or to become Catholic and avoid the commitment to raise Catholic children. His heart hardens with fear as he imagines his children worshipping in a church and looking at Jews as different, as enemies. This he cannot do. He becomes Catholic and raises his children as Jewish.

[The scene changes and we are now in Scotland, in the home where WW is born.]

A third son, our Wreality Wrestler, is born to the couple, now married for three years. We see the boy surrounded by men in Jewish prayer shawls. The rabbi has a circumcision knife in his hand.

[The scene fades.]

Mother is now alone with the baby in the kitchen. She is holding the newly circumcised baby, our Wreality Wrestler. She has oil, water and a lit candle and is saying a quiet prayer under her breath. She secretly baptises him in the kitchen sink in the name of the Father, the Son and the Holy Spirit.

WW2²⁹ is walking with his mother and his two older brothers through the streets of Edinburgh. He radiates a love that is focused on his panda bear. He takes this small, stuffed toy panda everywhere with him. He offers everyone that he meets to 'Kiss

²⁹ WW and Wreality Wrestler represent the adult me who is the teller of the tale. WW2, with a number after it, represents me at that age when growing up, so WW2 is me at the age of two, and so on.

it, kiss it.’ Wreality Wrestler³⁰ has heard this story many times over the years from his mother who tells it with great fondness. Wreality Wrestler believes that this is what he has continued to do his whole life; to offer up those things that he finds most precious in the hope that others will embrace them. He also sees in this story the earliest expression of his love for teaching.

The family has moved to Port Elizabeth, South Africa where WW4’s father begins work as a qualified accountant. WW4 is enrolled at a Jewish kindergarten. His parents are raising all their children Jewish to strengthen their Jewish identity in the predominantly Christian environment of Port Elizabeth. WW4 is surrounded by children in the kindergarten, telling them made up stories of BIG, BIG giants and tiny, tiny dogs, in his strong Scottish accent. The teacher tries to call the children back into class, but they cannot stop listening to his stories. Wreality Wrestler has heard this story many times from his mother and recognises in this an echo of how he likes to teach, to engage his students with interesting and unusual stories to inspire insight, wonder and awe.

WW5 usually dreams himself away into happy and beautiful worlds of imagination. Now, however, WW5 is wandering alone at kindergarten among the new educational equipment of sense-training toys in a room where the children never go. He wants to be alone. He is lost in soul pain which is related to trouble between his parents at home. His parents fight a lot, with his father often getting angry and his mother often crying. He does not know why. A teacher finds him there and thinks that he likes the equipment. The teacher recalls that he ‘almost always’ goes to the ‘sense-training toys’. She is so pleased that she writes it in his year-end report (Mirkin, 2021) (See Figure 5.3).

³⁰ Wreality Wrestler is the adult me reflecting or commenting on the story that has just been told.

THE UNITED HEBREW INSTITUTIONS OF PORT ELIZABETH.

HEBREW NURSERY SCHOOLS.

TELEPHONE:
PORT ELIZABETH...32746
SUMMERSTRAND.....24795

PROGRESS SUMMARY.

NAME. Philip Mirkin..... DATE. June, 1969.....

PHYSICAL DEVELOPMENT HEIGHT. 3' 7 1/2"..... WEIGHT. 38 lbs......

Philip is very active out of doors and loves doing
ricks on the jungle gym and big boxes. He also loves
the triaycles and sandpit.

FEEDING: Eats his lunch and drinks half a glass of milk.

When Philip arrives at school he almost always
goes into the office to play with the sense training
toys. When other children arrive he will join in and
start the activity of the day. This he usually
carries out eagerly, showing skill in drawing and
cutting. Philip loves using the building blocks and
often indulges in imaginative games in this way.

Philip enjoys and participates in all music rings.
He particularly enjoys rhythmic movements eg. digging.
He is an attentive listener at story and often joins in
at discussions.

Towards the teacher and other children Philip is
friendly and helpful, especially when he has
decided that it is his "busy" day. He spends
a happy useful time at school.

Figure 5.3: WW5's kindergarten report

Reading through this old report (Fig. 5.3) reminds Wreality Wrestler of the feeling of deep sadness and loneliness that took him into the room. He recalls feeling totally alone among these monster-machines. Wreality Wrestler imagines that many current children would possibly be attracted to these machines and immediately start to experiment with them to see what they do. For WW5, they provide the perfect place to hide from the living. In hindsight, Wreality Wrestler now sees why he possibly has so little faith in technology to bring true education to young children and why his land in 200 Days at Sea has such limited technology.

It is 1970 and WW6 starts his first day of school at Grey Primary School. Grey is then a highly respected Whites-only, English, boys-only school in Port Elizabeth with a long tradition of excellence. Father sends WW6 to what he believes is the best school available even though Grey has a Christian ethos, as he trusts that Jewish children will be warmly accepted. This is the first time that WW6 has been in a predominantly Christian environment. There are lots of children and adults running around and making a lot of noise. He is excited but alone. He knows nobody. The teachers and their assistants get the children to stand in long straight rows. WW6 has never seen or experienced anything like this and he is confused. This makes him feel that nothing makes sense, and this feeling lasts throughout most of his schooling. He continues to try and make sense of the education he receives but never finds a satisfactory understanding. It all seems random and meaningless.

WW7 is under a veranda at a Hebrew school in Port Elizabeth. Now that he is at a secular school, his parents send him to Hebrew school to continue his Jewish education. His older brother tells him the story of Jacob who stole his brother's blessing by tricking their father. Jacob's mother supports him in this deception against her eldest son, Esau. We move into WW7's eyes and see the confusion and disturbance that this is causing in his soul – is God okay with this deception? WW7 walks in circles, turning, turning. He cannot trust this God. WW7 seems to semi-regularly live in a state of sadness and confusion but does not yet embark on a wrestle for wreality.

We are now in his school hall for an assembly and all the children are wearing the same uniform. WW8 is sitting in a row on the floor with his classmates while the headmaster stands on the stage with the rest of the staff sitting behind him. In every assembly, a passage is read from the Bible, prayers are said and hymns are sung. The headmaster announces that from now on all the Jewish children should leave the hall during prayers. WW8 and the Jewish children have never been asked to leave the hall before, so he is surprised and shaken. WW8 stands up feeling very exposed as 'different' and leaves the hall with about 15 other children from the

primary school. We follow WW8 outside the building to line up in the cold. On a different day, an adult is talking to the gathered Jewish children about the life of Hellen Keller, a girl who was blind and deaf. WW8 pictures Hellen Keller learning to understand the braille word for water by her teacher repeatedly getting her to feel water and then touch the word. We see Hellen's face slowly brighten as the light of understanding dawns. We now look at WW8 and see the hope kindled by the idea that even blind and deaf Hellen can have light in her dark, isolated inner life.

WW9 and his family move to Rondebosch, Cape Town, South Africa because his father has bought into an accounting firm as a partner. WW9 builds a wooden box on wheels with his neighbour Brian, which they call their tank. The boys steal cigarettes from Brian's brother, push the tank down to the river, climb into the tank and smoke. They also find snakes at the river so they join with a third neighbour and build a cage for the snakes.

WW9 catches many snakes and takes three to his Christian-ethos school for White boys, South African College Junior School (SACS), Cape Town. He keeps the snakes inside his shirt against his body as part of a show and tell for an oral assessment in his English class. He does very well in his oral, and soon many children in the school want to see the snakes. A 12-year-old boy in Grade 7 takes a strong interest in WW9's snakes. This boy swaps his chemistry set for one of WW9's snakes. WW9's father gets very excited for him but WW9 looks at all these small jars of chemicals and cannot make any sense of them.

A few months later, WW9 gets caught with cigarettes by his father and he is severely punished. He is sent to his room and is feeling so sad that he keeps crying. He wants one of his parents to comfort him, but they do not. He is not aware of it, but it is a test in which he wants to know if he is cared for by his parents. When they come into the room, they just tell him to calm down and stop crying. He can hear them saying that he is 'just looking for attention' and they ignore him. It is then that he tries to run away from home for the first time. His father has promised to buy him a bicycle at the end of the year – his first – but the end of the year comes and his

father does not buy WW9 the bicycle nor does he explain why he will not buy it. Looking into WW9's mind, we see a hardening. Without him knowing it, he has decided to close himself off emotionally from his parents and from all adults; the adult world is confusing and adults are not to be trusted. WW9 is now happy to be rebellious as he begins to create a wreality where he feels more in control.

WW10 does an oral on seashells. He does extremely well in orals and this gives him confidence for public speaking. In hindsight, Wreality Wrestler realises that he never did well at anything else in language lessons. He reflects that his orals were about things from nature that he had found, loved and, like his panda, enjoyed sharing.

WW10 goes to his first Habonim meeting in Cape Town. Habonim is a youth Zionist movement in South Africa that aims to strengthen Jewish identity and foster a strong affiliation with Israel. WW10 does not know that it is his father's idea for the children to go to Habonim because it is always his mother who enthusiastically takes him. When he enters, the two adults running the meeting look at him with gentle concern and ask, 'You know that this is only for Jewish children?'

'Yes,' answers WW10.

Then they ask, 'Are you Jewish?'

He realises that he does not look Jewish ... He wonders what Jewish looks like?

WW10 hates going to school. Although he does not realise it at the time, it is because he has a teacher who does not form any kind of warm connection with the children. His mother tells him about her brother who hated school but stuck it out and became an engineer. His mother says that WW10 will also become an engineer because WW10 and her brother are similar in many ways. The thought of becoming an engineer begins to grow in WW10 and this helps to take his mind off not being able to understand his school wreality. WW10 begins his interest in science.



Figure 5.4: Photograph of a startled WW15 taken as a joke by friends to capture how generally disoriented WW15 is and how easy it is to startle him (Mirkin, 2021)

WW10 has a lucid dream of flying. He loves the feeling of liberation and empowerment while flying. In this dream, as he becomes self-aware that he can fly, he is shocked that nobody has ever told him or his friends about this ability. His instant response is to teach flying to his whole primary school and the dream changes accordingly. His dream continues with the children now gathered in the school hall for an assembly and he flies around, passionately showing them all how to do it. His heart is pounding. WW10's wreality has just taken a new leap forward with this knowledge of flying, and he has a burning wish for all the children to know that they can fly too. He has many more dreams of flying but remembers none of them as clearly as this one.

Wreality Wrestler realises that his love of flying resonates with his love of giving orals on nature and his wish for the world to 'kiss teddy'. He also realises that before the end of his high school years, he will have forgotten this experience and his impulse to share what he loves with the world.

WW11 now has a teacher who is strict but loving. This teacher reads stories about children and animals to the class which awakens deep, loving feelings in WW11 for life and the world. For the first time that he can recall, he feels at home in a classroom. As an adult, Wreality Wrestler dedicates his master's dissertation to this teacher. He recalls that this teacher had been a Brother with the Christian Brothers

prior to becoming his teacher and that this teacher's love for children was deep, sincere and religiously rooted.

WW9-11³¹ spend a lot of time at the river with his neighbour Brian and sometimes with his older brothers where they catch snakes, swim, jump into waist-high soft mud, discover huge frogs (some of which they catch to feed the snakes), and monster rats. The nature area around the river feels invisible to adults as they seem to drive past without ever noticing it. He lives in his nature with freedom, peace, joy and awakesness. This world of nature is one that he enjoys, understands and trusts. WW10's wreality now contains two worlds, nature and the world run by adults that seems entirely disinterested in and disconnected from nature.

WW11 still goes to Hebrew school on Saturday mornings. He has no respect for Hebrew school and is forever making a noise in class or simply talking to his friends and distracting the class for which he is regularly in trouble and getting expelled. After each expulsion, WW11's father always convinces the school to take him back, but after being expelled from shul (synagogue) for a final time, his father helps to negotiate with the rabbi for WW11 to try out for the choir as an alternative. WW11 loves singing.

We see WW13 now in full prayer shawl and yarmulke. WW13 calls the Jewish kippah or skull cap a yarmulke because his Cape Town community uses the name given to it by the Eastern European Jewish community from where his father's ancestors came. A yarmulke is worn as a sign of humility before God. WW13 is standing on the stage with the Torah scroll containing the five books of Moses open in front of him. It is written in old Hebrew which he has to learn to pronounce. He is saying the prayers and fulfilling the duties of his Bar Mitzvah, the Jewish coming-of-age ritual. He is enjoying the attention and approval from his adult world.

³¹ WW9-11 indicates a spread of ages between 9- and 11-years-old

WW14 and some Christian friends from school create a gang called the Extenders. They ride skateboards, smoke cigarettes, drink alcohol, party and 'extend themselves to the limit' (Mirkin, 2021) (See Figure 5.5).

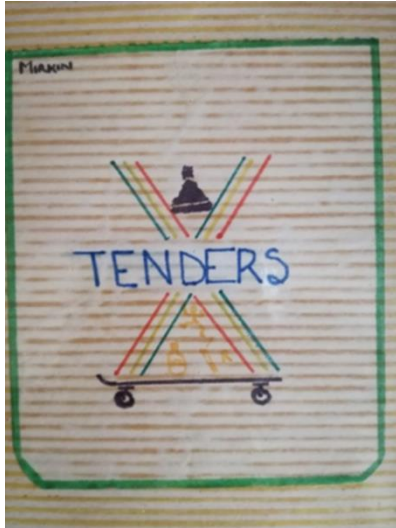


Figure 5.5: Logo of the Extenders made by one of his friends

In 1978, WW14 is dating Sheryl, a Coloured girl as per the Population Registration Act under apartheid which classified all South Africans as White, Coloured, Indian or Black (Union of South Africa, 1950b). She is from a wealthy family, goes to a private girls' school and he only ever sees her at parties in private homes. Sheryl is the first Coloured person that he has met socially because the Apartheid Reservation of Separate Amenities Act (Union of South Africa, 1953) forbids public social mixing of the races. Under the Apartheid Immorality Amendment Act of 1950 (Union of South Africa, 1950a), having a romantic relationship with a person of a different race is also illegal. Living in the liberal, isolated and protected, English-speaking White world of southern suburbs Cape Town, WW14 knows all of this, but knows it as though it all belongs in a distant dream that has nothing to do with his life, and certainly has nothing to do with his relationship to Sheryl.

WW14 finds Sheryl beautiful. At one house party to which the Extenders are all invited, WW14 comes across his best friend, Graham, crying next to a swimming pool. He has been spending time in the garden joking, chatting and making out with

Sheryl. When they see Graham crying, Sheryl goes inside and WW14 sits down to talk with him. They are all fairly drunk and Graham is crying because he realises that Sheryl will not be able to go to the movies with them because she is Coloured. Naïve as he is, WW14 is shocked to hear this because he had not imagined that apartheid laws would ever impact his life. He is also impressed that Graham cares so much. It is not something he had seen anyone express before and he is strongly moved by it. WW14 and Sheryl break up soon afterwards and he does not think about it again.

WW14 and Graham are wandering along the banks of a river near where they live in the White, lush and leafy suburb of Newlands, Cape Town. They are singing loudly and rolling about in the soft undergrowth. At the top of the riverbank, a girl his age and her mother are watching. They watch the boys for a while and eventually shout greetings down to the boys who sing them a song and then wander off. WW14 does not think about it, but he always feels completely at home and uninhibited in nature.

WW14 is now with his Extender friends in school. Some of them are teasing a Jewish friend, Shaun, who is walking past the group. WW14 asks his friends why they don't tease him for being Jewish. They reply without thinking, 'It's no fun teasing you. You don't react.' WW14 realises that it is the defensive reaction and not the Jewishness that they tease.

WW14 is now in the school gym changing room. He and his classmates are getting dressed into their school uniforms after the gym lesson. One of his close Extender friends, Andrew, is teasing Shaun, 'Hey Jew-boy. What are you doing after school today?' Shaun attacks Andrew and they are soon wrestling on the floor in the middle of the room with all the other boys shouting for Andrew. We see the pain on WW14's face as he looks around at his classmates. WW14's best friend, Graham, is enjoying himself enormously and gives Shaun a gentle kick in the back while he is on the floor and fighting. WW14 gets so incensed by the kick that he jumps across the room and starts fighting with Graham. They fall to the ground, and while on the floor

each boy has the chance to punch the other in the face, but on each occasion they catch each other's eye and do not do it. We now see WW14 and Graham walking home together that same day, as they often did, and resolving the problem together. Graham immediately realises that the teasing must stop. Later that day, they get their bicycles and ride and sing in the streets together. Wreality Wrestler realises that this story tells him that WW14 did not feel threatened by the teasing, but defended others who did, even if it meant fighting his best friend.

At the start of WW14's second year at high school, he has an English teacher who is inspiring. He recognises that this teacher is an expert in his field and WW14 invests a lot of effort into their first essay-writing assignment. He works hard at it, is proud of what he does and eagerly awaits his results. When the teacher hands the essays back, he first makes a speech about how some essays are of an extraordinary quality while others are without merit. He hands them out from best to worst. Graham's essay is at the top and the teacher has even composed a beautiful poem from it. WW14's essay is at the bottom of the pile. He is crushed and never learns what he did wrong or how to improve (See Figure 5.6). WW14 continues to hold this teacher in high regard but is not able to learn how to improve his writing from him. WW14 does not know that he is dyslexic. He does not know that he is simply not able to read and write properly. The teacher does not recognise the

dyslexia. In fact, no teacher ever identifies it. Reading is so uncomfortable for him that during all his school years he manages to read only one short book.

2nd TERM REPORT 1980

CLASS: D3

MAX.	MARK	CLASS AVE.	COMMENT
400	200	228	Muddled through his written pieces. Must learn to edit carefully!
300	137	147	Phillip must apply himself even more.
400	213	211	He is making progress. Steady work next term will see him through the exam. R.E.H.
400	197	217	Disappointing. R.E.H.

Figure 5.6: Report from WW16's second last year at school with his English comment on top (Mirkin, 2021)

Old school reports (like in Figure 5.6) consistently mention his bad handwriting and poor writing ability, but none mention dyslexia or any other writing problem. Even worse, Wreality Wrestler now realises that one of his best friends throughout school and still a close friend in 2021, Dick, has a more severe form of dyslexia that was never noticed or addressed, and he continues to suffer from the trauma of it to this day.³²

During class, WW14's English teacher reads the entire first book of *Watership Down*. He reads it beautifully and captures the whole class's attention. Wreality

³² Both Graham and Dick have given this thesis confirmation by means of verisimilitude.

Wrestler³³ learns the power of stories, even for teenagers, and how they are, perhaps, even more in need of them than younger children since no-one reads them stories anymore. Wreality Wrestler knows that as a teacher, his science poetry and writing are his attempt to bring science into a story form for his teenage school students.

WW15 has chosen Physical Science as one of his subjects for his last three years of high school. This subject, like mathematics, comes easily to him and it comforts and strengthens him to find something from the adult world that makes sense to him.

His chemistry teacher only conducts two experiments in three years in class and, as a devoted Christian, uses the spare time to show his class slides of his favourite topic, the Holy land. The contrast in attitude from his earlier chemistry teacher who took any opportunity to make an explosion or smell out the classroom is enormous, and yet somehow, both teachers seem mentally unstable, as though the chemistry has affected their minds. Wreality Wrestler reminds himself of this instability when he later becomes a chemistry teacher. As a chemistry teacher, he sometimes takes his students into the chemical storeroom and shows them how the chemicals are stored, trapped, sometimes for decades, in unnaturally disturbed and reactive states. He describes to his students the torture this would be for them if the chemicals had a human consciousness. He justifies this storage to himself and his students by sincerely thanking the chemicals for bringing experiences, learning and understanding. As a teacher, Wreality Wrestler also writes poetry to try and give honour to nature. He does this partly to work on keeping his mental health from deteriorating, yet it does not escape his notice that all these attempts may be signs of him having lost his mental health altogether. Wreality Wrestler sees in this story a picture of how he incorporates his respect and love for nature into his teaching of science.

³³ A reminder to the reader that Wreality Wrestler denotes adult Philip, the researcher, reflecting or commenting on the story.

WW15 is now sitting in an open corridor at school with other Jewish children of the same grade. His school has decided to separate the Jewish children during the timetabled religious instruction lessons. All South African government schools need to subscribe to Christian National Education policies which ensure that every school assembly has a Christian prayer, Bible reading and hymn, and that religion lessons are given as a part of the curriculum (Lavin, 1965). WW15 is sad to no longer be a part of these religion lessons because, from the start of his schooling, he has always enjoyed the conversations in class and has never felt different because he is Jewish. In the corridor he meets and makes friends with the Jewish boys from the 'clever class'. These boys all work very hard and value cleverness and academic success, all of which WW15 finds valueless. He is a part of the group but also feels slightly different because most of them come from much wealthier homes. The boys always have cool debates and argue about little things. It is their way of having fun and socialising and WW15 loves it. With these boys, WW15 begins to debate many topics and thoughts for the first time and so he learns to wrestle for wreality using many new ideas and strategies.

WW15 is having a family conversation around the dinner table with his two older brothers and parents, discussing what the three boys want to do when they leave school. The oldest wants to become a doctor and the second wants to become an accountant like their father. WW15 is quiet, a very unusual thing for him. His mother asks him what he wants to do. He is quiet at first but then responds, 'If I am rich, I would like to be a teacher.' WW15 has subconsciously noticed that among his parents' friends as well as his friends' parents, there are no teachers. WW15's wreality knows that to be a teacher is a thought that is foreign to his ethnographic world so would require previous wealth to be acceptable to him.

In 1980 WW16 is now in a Geography class sitting next to a boy who is new to the school from Johannesburg, South Africa. Having wondered who votes for the National Party (the Nats), since all his friends and family would vote Progressive Federal Party (PFP), WW16 asks this new boy which party he would vote for. The National Party came into power in South Africa in 1948, taking over from the United

Party led by Jan Smuts and it created and implemented apartheid and all its laws (Lavin, 1965) which in 1980 are in full effect. In 1980 the PFP are the most liberal party in Parliament and are opposed to apartheid.

The boy says, 'PFP.'

WW16 is puzzled and so asks, 'So who votes for the Nats?'

The boy answers, 'The Jews.'

WW16 says, 'I don't. I'm Jewish, and my Jewish friends would all vote PFP.'

The boy looks closely at WW16 and says, 'No you're not.'

Perplexed, WW16 asks, 'Not what?'

'You're not Jewish. You can't be.' he says looking totally unconvinced.

WW16 is shocked at having his word so totally dismissed. He turns to a Christian boy and says, 'Alex, please tell him that I'm Jewish.'

Alex looks at both of them for a while then says, 'Ja but he's a cool Jew,' as though that excuses WW16's Jewishness. WW16 is surprised by how some of his school friends see Jews as so different from themselves.

The school matriculation final practice examination for physics is a very challenging one and WW17 is disappointed to only get 68 per cent but learns that this is the second highest result in his grade. He achieves an 'A' for science in his official matriculation results, one of only a few boys in his school to achieve it in 1981. In hindsight, Wreality Wrestler realises that his natural ability in science has earned him his first academic achievement.

WW17 is walking past the principal's office and sees a strange group of fellow matriculants gathered. He imagines that if he were to handpick those whom he would call the losers of his year, that would probably be them. Then, wondering

what they are doing there, he laughs as he remembers that in assembly that day, the announcement was made that if anyone wanted to apply for a teacher's bursary, they should meet outside the principal's office. Wreality Wrestler now sees that WW17 had forgotten that he wanted to be a teacher, and that being a teacher was clearly something that was not meant for him and the people of his world.

WW17 does not know what he wants to study at university in his next year. He does not question that he will study something as this is the path for all his close friends and family. His mother takes him to the University of Cape Town (UCT) for a three-hour career's guidance test. He is advised to do mechanical engineering because of his science and mathematics abilities and, as a result of this test, he enrolls for mechanical engineering.

WW18 has been at university for three weeks and his old school friends are talking excitedly about what they are learning. It all sounds interesting to him, but he feels like he is still just carrying on with schoolwork and questions why he is doing it. WW18-19 gets increasingly depressed without knowing why. He begins to realise that he is suffering from a great disappointment about an unconscious expectation



of what he would learn while being at university, that of getting real life guidance. Surely, he surmises, somewhere within established education there must be some real guidance on how to 'be', by adults who understand 'beingness' (Fromm, 2013). He then realises that perhaps no-one is out there to help him with this part of his education. He begins to smoke marijuana to self-medicate this most bitter realisation (see Figure 5.7).

Figure 5.7: Picture of WW19 on marijuana at a party (Mirkin, 2021)

Believing now that within the adult world there is no-one who can help him, he also begins to seek alternative insights and help, and starts doing Transcendental Meditation with a friend from school, Ben, who seems in similar need. He also joins the yoga society on campus. In hindsight, Wreality Wrestler can see an almost complete lack of self-awareness on the part of WW18-19. He can also see that WW19 had even lost all his faith in his beloved science as it could not help him in his time of need. Having now lost faith in everything and everyone from the world from which he has come, he begins taking hold of his own journey from this point in time. His wrestle for new insights into wreality from any source begins in earnest.

In 1982, at the end of WW18's first year studying Mechanical Engineering at UCT, his father sends him on a trip to Israel, his first trip overseas since being a young child. WW18's father has sent all his children to Israel to foster a personal connection to the land and to strengthen their Jewish identity. WW18-19 works in a sprinkler factory at Kibbutz Na'an. The Kibbutz system is a collective where many families work a piece of land together and share the profits as a community. In 1982 many Kibbutzim have factories. Here WW18 lives with 60 other volunteer workers from all over the world. At regular intervals, a German volunteer verbally attacks WW19 for being a White South African living in South Africa under apartheid. He tells WW19 that he must be a racist. The German says that he is in Israel because he wants to be Jewish to understand the Holocaust from their perspective. He says that if WW19 was not racist he would leave South Africa. WW19 has encountered people with strongly entrenched prejudices before, so is not too upset by it. He enlists the help of a Black Englishman to help the German shift his perspective.

On a trip to Jerusalem, WW19 stays at a backpacker's lodge run by two Israeli Muslim Arabs. At dinner one night at the lodge, WW19 is verbally attacked for being a White racist and a Jewish oppressor of Muslims by an Irishman who has been aggressively anti-English all evening until discovering the White, Jewish, South African target at the table. At this point, the two Arabs call WW19 to their private room to share some hashish (resin form of marijuana) and stories of their life in Israel, including how their mothers wept for Golda Meir when she passed away.

They share deep personal experiences of their wrealities interspersed with laughing and singing until the early hours of the morning. WW19's new Arab friends are interested in Africa, so he teaches them Miriam Makeba's Xhosa song, 'Qongqothwane',³⁴ otherwise known as the click song, the sounds of which, with much laughter, they really struggle to produce.

The flight back to South Africa has a stopover in Athens, Greece, where the airline put WW19 into a hotel for the day. At dinner, the barman, noticing that WW19 is South African, proceeds to tell him how proud he should be and that the rest of the world can learn from White South Africa about how to control the 'uneducated savages' who are 'lazy and good for nothing, like the Turks' in Greece. WW19 is shocked to see how widespread prejudice is all over the world, and how many people do not challenge their own assumptions about people of other nationality, race or religion. Over the space of a few weeks, WW19 is so shocked to have been classified and condemned or praised for being White, South African and Jewish by so many different people that these experiences sink deeply into his memory.

WW19 no longer wants to study engineering but manages to pass his first year with help from his friend Francois. By the middle of his second year, he is self-medicating with marijuana almost every weekend. He gives up engineering and goes to work for the Cape Town City Council as a surveyor because he has done engineering drawings in his first year. There he works with a Coloured man, Willie, who is about 23 years of age and who knows the job better than WW19 but is still classed as a labourer because he never went to school when he was younger. His parents died when he was three and he then lived with his uncle, who beat him, so he ran away and lived on the streets from the age of four. Had Willie been White, WW19 is certain that he would have received funding and support to be housed and educated by the state, but, as a Coloured, this support was clearly not there. WW19 is overwhelmed with how Willie has relied on no-one, is not bitter about anything, and has a wife and

³⁴ *Qongqothwane* is a word in isiXhosa. The two q's in the title are sounded by pulling the back of the tongue down from the palate while the front of the tongue stays in contact, producing a partial vacuum between them. As the tongue pulls free from the palate the 'click' sound is produced.

three children whom he loves and is raising while doing night school to finish his matriculation. The image of Willie's happy and strong face becomes the image of a real hero in WW19's wrestle for wreality.

One night, WW19 has a conversation with his uncle Jackie who asks him what his plans are now that he has stopped studying at university. WW19 tells him that his biggest questions are, 'What are we? What is a human being?' WW19 tells his uncle that no adult has ever been able to give him satisfactory answers to these questions, so he wants to become a teacher because children are not yet moulded by society. WW19 hopes to learn from children what authentic humanity looks like while he helps to guide them to retain their natural state as empowered members of the world. WW19's decision to become a teacher is met with a lot of confusion and disbelief from his family and friends. This decision seems to change everything from the way he looks to his future, friendships, status, financial prospects, values and interests. With this decision, WW19's new-found wreality gives him direction for his future for the first time. It also opens the door to looking at all of human life, including religion, with fresh eyes, something he has wrestled with and rejected from a young age due to his confusing and unpleasant experiences. WW19 feels a new openness for experiences to give new ground to his wrestle for wreality.

Gaining solid ground for my wreality and future holistic wrestle

[WW addresses the audience.]

WW: My decision to conduct my own broad search for a holistic wreality led to many experiences. Here are two stories that present significant milestones in giving my new wreality some solid footing, 'e and me', and 'Meeting with Anthroposophy through Cole Jacobs'.

The first story is one where science moves WW20 to a religious experience. It was written in 2017. It has been edited over the last few years and was given a minor edit for this presentation. The story includes some scientific and mathematical ideas that may be challenging for those of you who are not

familiar with these subjects. It is important to include the scientific ideas in the story as they were instrumental in bringing about the significance of this experience. These stories are written in my first-person voice writing about my past.

e and me

In the second year of my engineering degree, I, WW20, encountered the number e for the first time. e is not the same as E , which stands for energy. Before meeting e , for as long as I can remember, I was an atheist.

In roughly the fourth month of my second year of engineering at university, I was using the number e to simultaneously solve problems in mathematics, physics and chemistry. Initially I was just irritated by having to use a symbol that I did not understand. Then I became annoyed when I realised that my rational subjects were being taken over by an irrational number. e , which is equal to 2,7182..., has non-recurring decimal places that carry on forever, which is why it is called an irrational number. My irritation did not last long.

What was so important about this number that it got its own letter? Upon a little investigation, I uncovered three things that turned my head and made me start to think differently about everything.

The first thing I discovered was that e represents 100 per cent efficiency 100 per cent of the time. A simple way to think about this is to think about earning interest in a bank. If you invest money at 100 per cent interest per annum, you will double your money at the end of the year; but banks do not work like this. They add the interest to your account regularly throughout the year and so you end up with more than double your money because you have gained interest on the interest that they add to your account. Assuming you invest R1 and that the bank gives you 100 per cent interest per annum, the most money you could end up with at the end of the year would be if they add the interest into your account every second or even every

split-second. It turns out that the maximum amount that you can earn by the end of the year is R2,718 which equals e .

This got me thinking, and it brought me to the second thing that I discovered. If e is being used to calculate the behaviour of matter and energy in physics and chemistry, that must mean that aspects of nature operate at 100 per cent efficiency 100 per cent of the time. How can this be? If the universe had randomly evolved as I then believed, how did a perfection principle get woven into it?

The third thing I discovered about e was its multidimensionality, that is, it gives an identical answer in every dimension. Explaining this will take some doing, so take a deep breath if you are not already familiar with the mathematics of calculus.

Distance, speed and acceleration are all different aspects or dimensions of motion relative to time. Distance is how far you travel. Speed is how far you travel divided by the time taken. Acceleration is how fast your speed changes, or speed divided by time.

$$\text{Speed} = \text{Distance} / \text{time}$$

$$\text{Acceleration} = \text{Speed} / \text{time}$$

Each change from distance to speed and then to acceleration requires dividing by time. These changes have to do with a branch of mathematics called calculus which involves two opposite processes, integration (finding the integral) and differentiation (finding the derivative). Simply put, the derivative of speed will give you acceleration, and so the reverse, the integral of acceleration, is speed.³⁵

Now, I'm sure that you would find it a most unusual situation if the value of your speed, distance and acceleration were the same all the time, but this is exactly what happens with e . In fact, the only number where the derivative and integral will be

³⁵ There is a gaining or losing of a constant along the way, but we do not need to concern ourselves about this for our current considerations. This change is very interesting for thinking about what information is lost or unknown as we move from one dimension to the next, but this goes beyond the scope of this story.

identical is if you begin with e to any power. The mathematical equation for this is $Y = e^x$ as shown in Figure 5.8.

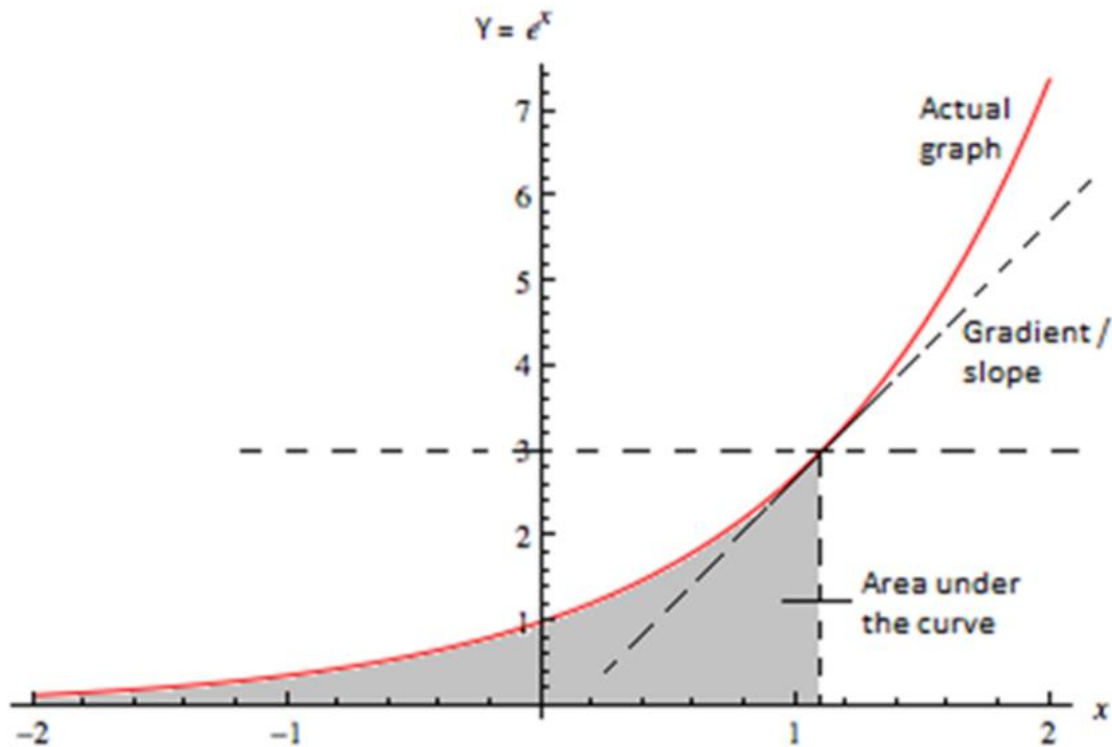


Figure 5.8: Graph of $Y = e^x$ where the value of 3 as the Y value on the vertical line was chosen for our example

On the graph above, the Y value of three was chosen as our example (see the horizontal, flat dashed line). Here, at the point on the graph where the flat dashed line cuts the red curve, Y has a value of three, but it will also have a gradient of three and the area under the curve up until that point will also be three. This would equate to you travelling at three meters per second with an acceleration of three meters per second squared after having travelled three meters. If we had chosen a Y value of four, each of the other values would also be four, and so on.

Mathematics is so cool that we could now make separate graphs for distance, speed or acceleration and they would look identical! And each new graph's derivative and integral would also generate identical graphs! This means that we could keep

generating graphs of higher degree derivatives or of successive integrals and continue to get identical graphs forever.

If all this mathematics makes your head hurt, then think of it in the following way. This resembles looking at yourself in two mirrors, one in front and one behind you, where your image keeps repeating itself forever. The only difference is that you see this repetition on both sides of you, so you realise that you are not the 'whole' of you. The 'you' that you currently are is simply a point somewhere between an original you on the one side and a you that is yet to come on the other. I must stress that this only works for the quirky little number e . Any other number would give you different graphs on both sides. I took this anomaly as an image of mathematics and nature's way of saying that only complete perfection is allowed to replicate itself through all the layers and dimensions of reality.

The upshot of these three findings on my poor soul was devastating. It set off an existential crisis of monstrous proportions resulting in a situation that was as deeply embarrassing as it was illuminating. Dear friends, I would love you to imagine that what I am about to describe is written about someone that none of us know; something that perhaps did not even happen but is given as a story to illustrate a point. Alas, this is not the case, and to bring this story to its proper end I am required to be as truthful about my reality as I was about the extraordinary world of e . Unfortunately, to honestly represent my developing understanding, the sublime perfection of e is about to be besmirched by a marijuana-fuelled urinating experience at full moon.

I was not exaggerating when I said that these findings set off an existential crisis of massive proportions. I became an anxious wreck who was realising that my wreality, the only thing that I felt I could rely on in life, could not be the truth. Having already lost my life-bearings, I was self-medicating with marijuana, otherwise known as weed. Weed led me to the company of others in a similar mental state. The effects of our self-medication made us see things differently, but the relief was only short-term except for this once.

My old, dyslexic school friend, Dick, arrived one night at my house with some Durban Poison, a particularly strong brand of weed at the time. He was a reborn Christian and we were talking about God and related stuff. He was not one of those preachy types and we stayed chatting in his car and drinking water for hours after smoking a little weed. My dilemma surrounded the question of how we could know that God is real when there seemed to be so little evidence of love in the world. e³⁶ had already convinced me that there was some extraordinary order that underpinned the natural universe, but I could not think that this order came from the biblical God because of the lack of love so prevalent in the world. After about three hours of talking, I needed to urinate so I stepped out the car and headed for the grassy verge. There was a thin weed standing about 20 centimetres higher than the rest of the lawn and I aimed at it. It immediately bent back horizontally from my impressive force, but, when I swayed a little, it sprang upright. Getting back on target, I was certain that the stem would break and remain flat against the ground once I was done. As nature had it, I ran out of stream and the weed came upright again. It shone up at me in the bright moonlight.

In my elevated mental state, I smiled as I began imagining the weed berating me for having just tried to kill it. Sobriety returned as I realised that it was not berating me – that nature never berates us. Nature just faithfully continues following all her natural laws leaving us free to do with her what we want by giving us the materials and forces to express our free will. Whether we build or destroy, she continues. Even when we make life hard for her, she simply continues as best she can, aching and struggling along but never turning accusingly to wake us from our stupidity and cruelty. Matter and life create the possibility for us to do as we please and to experience the consequences of our actions in almost complete freedom.

This was the final piece of the puzzle. I could not imagine a greater expression of love and respect for our freedom than this. As I lifted my gaze from the weed, I felt

³⁶ e is also the name of a 'happy drug' called ecstasy that luckily for me only came out once I no longer required self-medication.

and saw a golden glowing wave of presence and acceptance spread out from the weed over the whole Earth. My lifelong, deep love of nature was now enriched by seeing the loving presence of God. This presence, which normally lay invisibly imprisoned within matter, stepped out before my now-opened eyes. I now knew that my beloved nature was filled with a perfection and love that surpassed anything I had previously imagined. Even human freedom took on a new perspective. The process that started with e and the perfection principle that was a part of nature, ended in a transformed relationship between me and the world. My realisation that the God of Love from the Bible was real, moved and comforted me as deeply then as it does today.

My journey as a recovering atheist was not easy. No religion or religious practice suited my need to rebuild my relationship with such a Presence as this, and so I remained adrift in a world between science and religion like a worn-clothed beggar.

e,
A humble number are thee,
A divine Presence to see,
So much bigger than me,
Being freedom-loving efficiency.

Dear friends, please note that I have not called this story ‘weed and me’, even though this would not be wrong and it would be cute with its double meaning. Nor did I call it ‘God’s call to me’, which sounds as preachy as it is misleading in that the experience felt more like God and I as partners in the process. The credit for the massive healing that has happened slowly over time since this experience must go to e. This unassuming little number stands as a picture of the presence in nature that opened me to worlds of perfection, love, freedom and religion. So, please forgive the use – or is that misuse – of both weeds and my lack of toilet etiquette. I suppose an important aspect of growing up means having the humility to

acknowledge our imperfect nature and the indiscretions made on our journey. I'm sure yours would make a fine addition to this tale.

$e = 2,718\ 281\ 828\ 459\ 045\ 235\ 36\dots$

--oOo--

[The audience cheer rises... and then falls back into silence.]

WW: Thank you. Thank you for your kind ear.

This next story, which resulted from my changed wrestle for reality through science and religion after the enlightening event with e , took place about three months later. I will tell the story as I wrote it in March 2019 with minor editing for this presentation.

Meeting Anthroposophy through Cole Jacobs

My encounter with e had led me to recognise the reality of the God of Love, the God of the Bible, whose loving presence I now recognised as embedded within matter and all of nature. I knew then that I was heading for a new wreality, and I was building it through meeting with all types of religious people to wrestle with their perspectives. One day I was talking with a reborn Christian friend who was studying physics with me. We were standing in the entrance hall of the physics building surrounded by noticeboards and discussing my experience. He was saying that I was not yet saved and would not have value in the eyes of God until I accepted Jesus Christ as my lord and saviour. This made no sense to me. Why would a God be so cruel as to bless me with such an experience only to condemn me for not having one specific idea? We debated this for over half an hour. It was mid-afternoon and there was no-one around except for one chap whom I estimated to be three to five years older than us. I could tell that he was interested in our conversation, but he left the hall. He returned about 10 minutes later and paused at a noticeboard before going away a second time. When he returned for the third time, I could resist no longer and called him to join us.

He came over and spoke only to my friend. He put into words and ideas what I in my uneducated and feeling-rich way was trying to say. I cannot recall what he actually said, but my inner experience was extremely powerful. The first thing that impressed me was that what I was feeling could be backed up by words from the Bible. He had obviously been listening closely to what I had been saying and clothed my feelings in clear, Bible-referenced thought. This gave me deep comfort and strength.

Until that point in my life, I had felt almost entirely alone in my wreality. The relief in finding important aspects of my wreality being reflected back to me from a stranger made me determined to find out more from him. His name was Cole³⁷ and we became instant friends. From that day, we met regularly at his home and he filled me in on the ideas and work of Rudolf Steiner. Each time we met, I would walk away feeling like I had touched that world which was my heart's true home. It was an overwhelming experience of incredulity that such a body of knowledge existed in the world. It was a deep feeling of being welcomed home.

Cole became my mentor in Anthroposophy, the name given to the works of Rudolf Steiner. For the next two years, Cole gave me many books on Anthroposophy to read which I slowly but determinedly worked through. These were the first books that I ever consciously chose to read, and the force of will required to read them turned me into a reader from that point in my life. Cole also took me to talks and meetings of the Anthroposophical Society and I met many other anthroposophists through him. Three years later when I, WW23, was in my last year of university doing my education diploma, Cole asked me if I would come to the Christian Community Church with him. I was shocked.

The ideas of Anthroposophy that I had by now developed and the Christianity I thought I knew seemed impossible to reconcile. Further, growing up Jewish even with a Catholic mother, I had always felt Christianity to be threatening to my

³⁷ Cole is a pseudonym. I initially contacted Cole to give verisimilitude to this study but subsequently lost contact with him.

existence. The thought of Christianity being connected to that which was now my most dear possession challenged me to go with him and see for myself. I loved the church service. It spoke deeply to my heart and moved me in ways that I knew were healthy and right. Yet, each time the words ‘Christ in you’ were spoken, they felt like an electric shock. I was allowing the enemy access to my deepest places. Even at the time, I realised how powerful my Jewish prejudice against Jesus and Christ was, but I had developed enough trust in Steiner to stay open. I liked the people at church and felt that the service held much that I needed to learn. From here, for the first time, I started developing a relationship with Anthroposophy independent from Cole. My wrestle for wreality could now happen with more like-minded people than ever before.

On a transcendental meditation³⁸ weekend about two years before going to church with Cole, I, WW21, had shared a room with Grant Sands who was a few years older than me. He was the first person to talk to me about Rudolf Steiner, but the things he shared with me on that weekend were too new and unusual, and I did not share his interest in them. It was only when I met Grant again at a eurythmy (a dance technique developed by Rudolf Steiner) performance that I attended with Cole, that I realised that he had been telling me about the same Steiner. It seems that I was destined to come into contact with Anthroposophy one way or another. Grant later became my contact with the Michael Oak Waldorf School³⁹ and invited me to teach there about three years later.

Looking over these events, it seems obvious to me that I had clearly set my own life-path in motion by committing to give up everything in order to find out who and what we human beings are. I was willing to inwardly free myself from any personal attachment to what I had been brought up with and this became a portal to a new world. At the same time, in this anthroposophical world to which my wreality was

³⁸ Transcendental meditation has no relationship with Steiner’s work.

³⁹ Steiner founded the first Waldorf school in 1919, 100 years before this sentence was written.

somehow connected, another set of actions had been put into motion which brought specific people and ideas to me.

Now, writing this, for the first time in my life I can see that an invisible hand has been with me while guiding others to bring me what I was needing.

And, as I write, I can almost see Him; the bearer of the Hand for the first time.

--oOo--

The wrestle continues with a new framework for contextualising my wreality

Back at university, although he has not yet gone to church with Cole, WW20 changes his studies from engineering to a Bachelor of Science degree to become a science and mathematics teacher. Wanting to expand his wreality by learning from young people and people of different backgrounds, WW20 teaches mathematics and science to high school students one afternoon a week in Gugulethu, a Black township near UCT. Black townships were set up during apartheid as restricted residential areas for Black people to live separately from White people, but close enough to be able to work in White homes and White industry. Black townships were one of the first manifestations of apartheid and were legislated under the Group Areas Act to ensure that different races remained separate (Mabin, 1992). WW20 finds teaching in Gugulethu very hard because the students say that they understand but then cannot do even the simplest of problems. He realises that the students are too polite to say that they do not understand and that they lack the sub-structure of content as well as the type of thinking required to do the work. He is deeply shocked at this realisation. He sees how truly disadvantaged these township students are and how devastating the impact of apartheid actually is on Black students.

Each year during the university's student representative council (SRC) elections, the candidates run on political tickets that have nothing to do with supporting students on or off campus. The ideology of the SRC is highly political and critical of South Africa's National Party government and its racist apartheid policies, but

WW20 feels that it lacks student relevance, compassion and practical solutions to lived challenges. Despite his dislike of politics, WW20's new wreality is no longer one of pure rebellion, but one which has adopted the social values of compassion and action, and he decides to join the SRC in 1984.

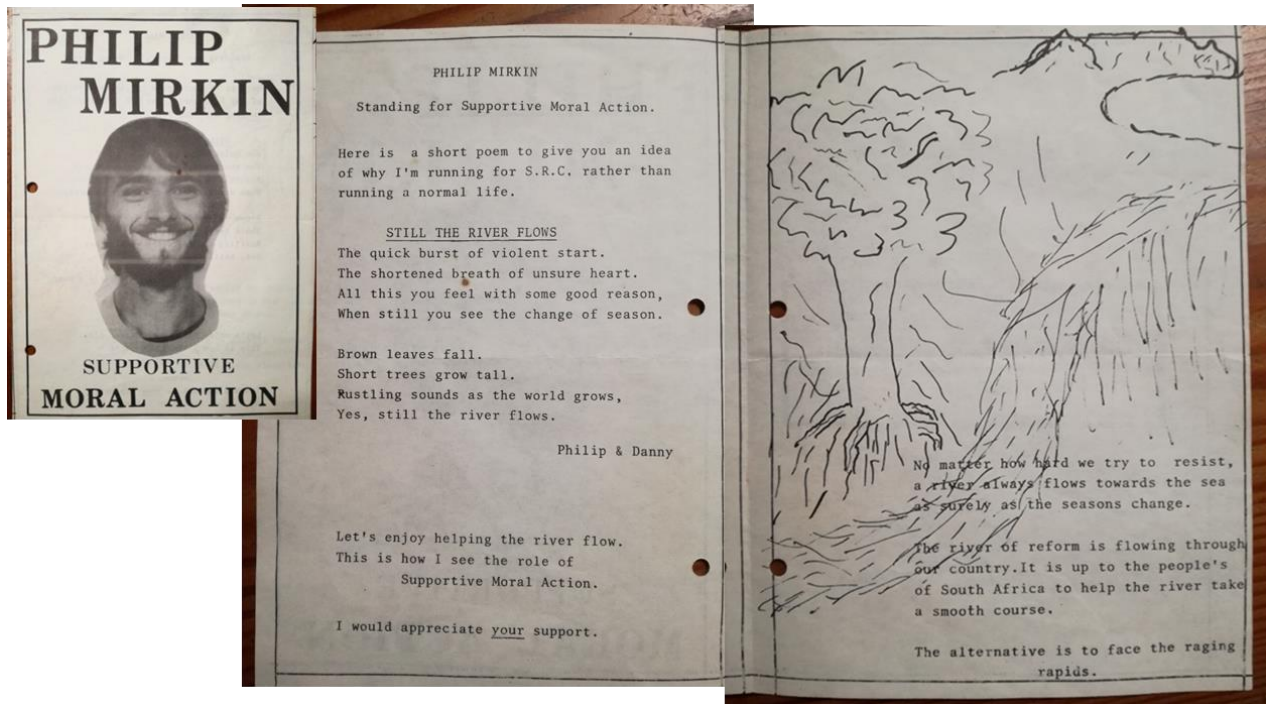


Figure 5.9: Leaflet from WW20's SRC election campaign in 1984⁴⁰

The theme of Supportive Moral Action included improving communication between students and SRC, so that the SRC could be more aware of personal issues experienced by students and set up support and information structures where needed. Because of WW20's lifelong struggle to make sense of his wreality, his aim was for the SRC to be a voice to help students in their wrestle for wreality using poetry with religious ideas like morality. However, his message as represented on

⁴⁰ The leaflet shown in Figure 5.9 is all that remains of the various documents that were needed for the SRC election campaign. This pamphlet shows the use of nature imagery, art, poetry, metaphor and story as possibly the first manifestation of Wreality Wrestler's preferred means of communicating his message (Mirkin, 2021).

his pamphlet is too obscure for his fellow students and he does not get elected to the SRC.

WW22, having already opened his wreality up to an appreciation of religion, attends a shul service during the most holy Jewish day of the year, Yom Kippur, the day of atonement for our sins. On this day, he joins his fellow Jews and fasts for 24 hours from sunset to sunset. The singing of Kol Nidrei is a moment of deepest remorse and repentance for our transgressions since the last Yom Kippur. As he listens to the haunting singing, he is moved by his own inner tragic state of being, and, in the depths of this, he recognises the value of the rituals of life which enable communities to pass through such moments of transformation and healing together. For the duration of this ritual, he feels at one with the world congregation of Jews asking for atonement.

In 1986 WW22 has finished his science degree and is now studying to be a teacher. He goes on his first teaching practical experience at Wynberg Boys High School, which, at the time, is still a school for White boys only. This school is situated in the southern suburbs of Cape Town, similar to the SACS that he attended, and it carries a very proud tradition of excellence in sport, academics and raising English gentlemen who will become the leaders of English-speaking South Africa. Such schools are as important for making friends within a specific class structure in society as they are for developing academic skills.

At Wynberg Boys High School, WW22 teaches the mathematics section of exponents to Grade 8s. He thinks that the section is straightforward and he teaches them the work so quickly that he confuses the entire class. He realises that teaching mathematics and science will require him to break everything down to its basic and fundamental components and, as much as this is hard work, he can see the immense value of it to understanding everything. WW22 slowly develops the patience required to build each topic up from first principles and feels grateful for this skill in wrestling for his wreality.

WW22 does his second teaching practical at Wynberg Senior Secondary School, a Coloured school no more than a few kilometres from his first practical. Apartheid laws divided Wynberg into two, with the Coloured area being close to the relatively wealthy White area. At this school, he meets a very different world, one where some teachers are often late for school, the principal seems to lack authority and where one teacher, an elderly White man, seems to only come to school about twice a week and is drunk when he is there. While WW22 is teaching at this school, the students embark on a school boycott because the education they are receiving is seen as an inferior form of education imposed on them by the apartheid government (South African History Online, 2011).⁴¹

After a day of tension with police due to student boycotts, WW22 takes his class on an imaginary, peace-making journey up into the air with family, friends and enemies to address his students' anxiety. Here they can embrace each other and gain some perspective. He has never done anything like this before. At first some of the students think this is a joke, but then do not want to leave when the lesson is over. Comforted and strengthened by the exercise, many students now share their real fears about the future. This exercise enables WW22 to see the potential for using imagination in education as well as in helping students create an integrated wreality.

One day after break (recess), WW22 and the entire school body is called urgently to the hall. The principal addresses the school, informing the students that they will be asked by the SRC leader to boycott the school in commemoration of the 10-year anniversary of the 1976 Soweto student uprising (South African History Online, 2011). The school principal encourages his students to stay at school but does not give them any reassurance or support to help their decision-making before walking off the stage. The students are then addressed by the leader of the school's SRC

⁴¹ The Soweto student uprising of 1976 formed a backdrop to continued school boycotts. Black schools were sites of contestation where not only were the subjects, including science, that Black students were learning regarded as inferior, the students were now going to be taught in Afrikaans. Slogans such as 'liberation before education' (Alexander, 1990). inspired the 1976 protests which turned violent after police opened fire and killed many protesters.

who, shouting, tells the students they should boycott school. Many students leave the hall in a state of bewilderment looking for some way to make sense of what is going on and what to do. The younger students feel particularly insecure. They cannot get advice from their principal or teachers as they have effectively gone into hiding in the staff room. WW22 reflects that this is probably because they have been previously traumatised by earlier boycotts and violence. WW22 finds himself as the sole adult in a sea of uncertain students desperate for some guidance. Some students gather around him and he helps facilitate their needed conversations to decide in freedom what to do as they wrestle with their own wrealities.

Thinking back, now some 35 years later, Wreality Wrestler sees how WW22's path towards becoming a science teacher wrestling for his wreality through science and religion was set within a much bigger wrestle. Wreality Wrestler now sees that the South African ruling National Party was engaging in a political and religious wrestle with the hearts and minds of all young South Africans by dictating the conditions of education and using religion to justify its apartheid policies under the name of Christian National Education (Lavin, 1965).

WW22 was aware that a lot of the harm done in education was because of apartheid, but only while doing this autoethnography does Wreality Wrestler realise that it was done in the name of religion, in the name of the Christian God. This abuse of religion by the ruling National Party to achieve political goals does not surprise Wreality Wrestler because it was these types of religious ideas that WW22 had rejected from a young age. It now seems to Wreality Wrestler that WW22's rejection of all worldly manifestations of religion in order to make sense of his world may have also resulted in him never becoming politically active, as South African politics was deeply saturated in what he perceived as misplaced religious ideas. Wreality Wrestler also sees how WW22 focuses on fighting the battle against the abuses of politics and religion by building an independent holistic wreality through science and religion, of which his earlier campaign for the SRC is but an early and half-built expression.

As another expression of how WW22 does not fight apartheid directly, one year before finishing his studies, WW22 decides to accept conscription law and go to the South African Defence Force (army) for two years once his studies are completed.

In 1986, conscription laws force young White males to go to the army after school unless they continue studying. The army is used in South Africa to support the police in preventing the ongoing protests against the apartheid government around the country, and to go to Namibia to resist the armed incursions of SWAPO forces and their allies in the north. The war in Namibia is justified using religion by the ruling National Party. Wreality Wrestler realises that SWAPO and their allies in Angola were communist and communism was portrayed in South Africa as engaging in a religious war against Christianity as well as a political war against White rule.

Conscripts have a choice to leave the country with the prospect of arrest should they return. They can also follow a legal route within South Africa and be a conscientious objector. Should they object to being conscripted into the army, they will be sent to six years in prison or to do an alternative six years of National Service should they be able to prove that they are pacifists. Opting to conscientiously object would be challenged by the state. In the same way that WW22 became a personal presence of support for his students when they were wrestling for their wreality as to whether to boycott school or not, he decides to go to the army and live his wreality with integrity despite knowing that in the army he may be victimised and perhaps killed for his relatively liberal political views. His acceptance of this worst-case scenario helps him to release the worst of his fear. By the time he goes, he is still scared, but he is okay about dying if that's what needs to happen.

In hindsight, Wreality Wrestler thinks that this release of the fear made all the difference to making his experience so positive. Although the fear may not be apparent on his face in Figure 5.10, Wreality Wrestler can remember his state of mind; he was scared, disorientated and in an Afrikaans-speaking world, a language he could often not understand. During his time teaching at the Waldorf School in Constantia, Cape Town, the picture was found by a student who then turned it into

this joke poster (Figure 5.10) which they put up around the school (Mirkin, 2021). The photograph was taken on WW23's second day in the army. WW23 kept it in his wallet to remind himself of this most frightening time of his life.

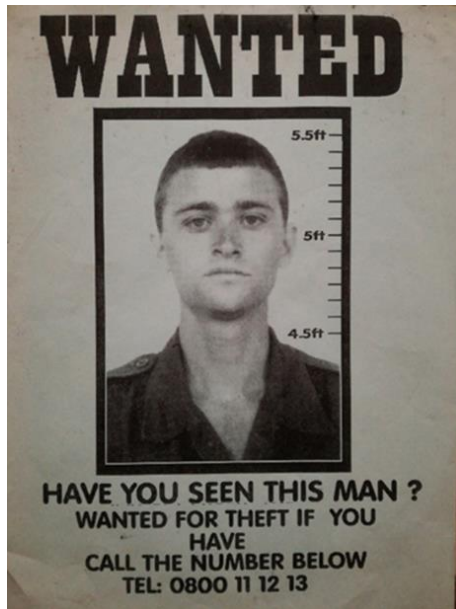


Figure 5.10: A joke poster using a photograph of WW23 in his first week in the army

WW23 enters his two years of military conscription (army) in Oudtshoorn, South Africa, with all the other qualified teachers. The teachers were automatically sent for officer training to become leaders of fighting troops and so were brought together to be given a thorough ideological and military training. WW23's hair is immediately cut off and he looks like a frightened rabbit in oncoming headlights (See Figure 5.10). Everything is foreign, from the Afrikaans that is spoken by all and the uniforms to the total control of all aspects of life. In WW23's first few weeks of training, the conscripts are divided into medically fit (G1K1) and unfit (G3K3) for normal army fighting. The medical tests include a hearing test, and he learns that his hearing is in the top half a percent of people (the medical personnel doing the test had purportedly never encountered anyone who could hear what he could) but he is nonetheless declared medically unfit (G3K3) because of his asthma.

As one of the medically unfit, he is trained on how to use a compass for navigation over undulating bushy terrain for a night-time exercise. A problem arises during the lecture on correcting the compass reading of magnetic north to find true north.

WW23 cannot understand what seems like contradictory instructions, so, after describing what he understands the correct process to be, he asks the corporal to explain it again. The corporal tries, but WW23 still believes that this process is wrong. Another conscript, to WW23's surprise, an Afrikaner, says that he agrees with WW23's explanation, so the debate continues. The corporal cannot resolve the situation so he calls the officer in charge. By now the lessons are put on hold and WW23's group is getting very stressed that they will soon receive punishment of some kind. Eventually the officer and his team realise that they have made a mistake. They fix the training and it is then no surprise that the G3K3 team does the best on the night-orientation exercise. WW23 is impressed that the army officer took the time to debate the problem instead of giving some kind of punishment for wasting time as had happened to WW23 many times before and after this event in the army. WW23 is also pleased to see that some Afrikaners are prepared to stand up to the authority of the army despite the possible risk of punishment.

A few weeks into his time in the army, WW23 hears a young man, Dirkie, speaking in a loud voice to a large crowd outside the tuck shop. He is saying how Hitler was the best thing that happened to the world and how much better the world would be if he had not been stopped. WW23 pushes his way through the crowd to stand in front of Dirkie, introduces himself and says, 'Hello Dirkie. I am Jewish. If Hitler had had his way I would have been murdered.'

Dirkie calmly but loudly replies, 'That's a lie. It's a lie spread by the Jews.'

WW23 replies conversationally, 'So where is half of my ancestry? Have they gone into hiding to prove a point? No Dirkie, they were murdered by the Nazis.'

Dirkie and WW23 continue talking while the crowd disperses. By the end of their second year together, Dirkie and WW24 are close friends. WW24 has learned that Dirkie's Nazi ideas come from his father who even has a secret room with Nazi memorabilia. Dirkie and his father fight all the time about it and yet Dirkie still promotes Hitler at their first meeting. Dirkie never mentions it again and WW24 sees

Dirkie as a faithful friend and one of the hardest working and kindest officers, especially when working with Black participants in Namibia where they are placed for their second year in the army.

WW23 is called Mirkie, Jood or Engelsman (Jew or Englishman) by his officers and fellow conscripts. He shares a room with three other conscripts who are all Afrikaners. One of them refuses to speak directly to the Klein Engelsman (little Englishman) and always asks others to speak to WW23 for him, even when he is right there and can hear him. Yet, at the end of their two months together he says goodbye directly by shaking WW23's hand and saying, 'Mirkie, jy's 'n klein kak, maar jy's alright.' (Directly translated as, Mirkie, which is a diminutive version of Mirkin and is usually used affectionately, you are a little shit, but you are alright, but actually means, Mirkie, I didn't want to like you, but I do.)

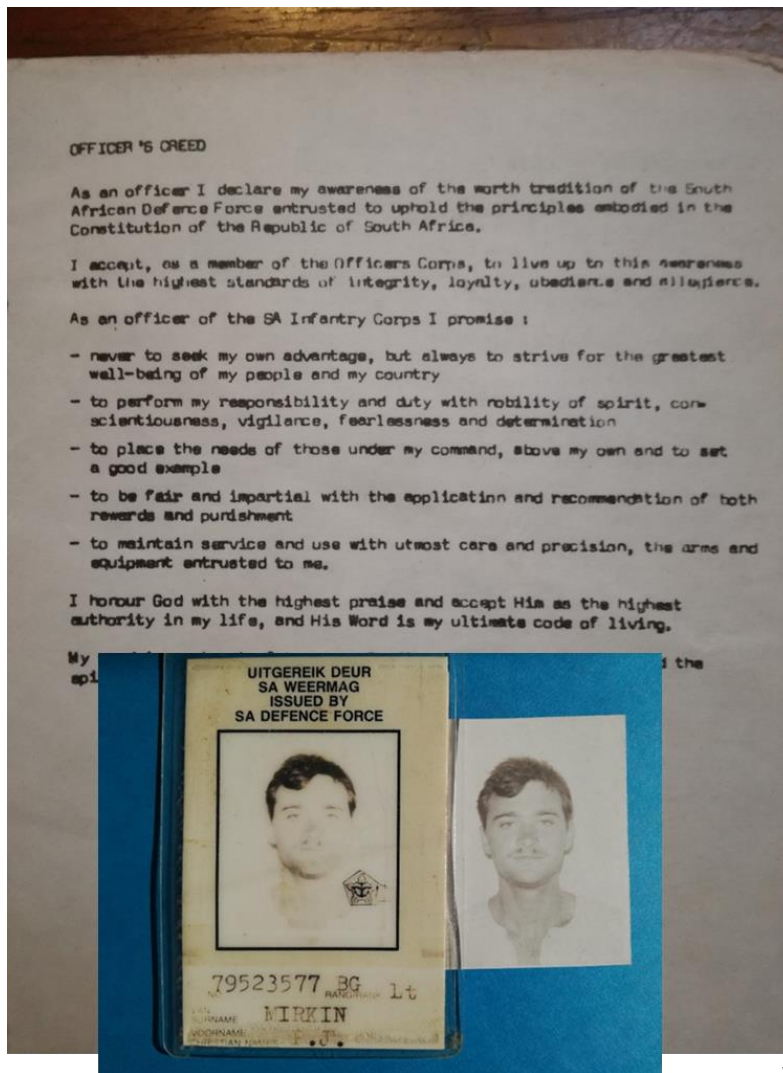


Figure 5.11: WW23's original copy of the Officers' Creed as given to him at the start of his training in Oudtshoorn, South Africa, with his officer identity card from his second year in the army.

With WW23 having been moved from Oudtshoorn to Kimberly, South Africa, because he has been medically classified G3K3, he is attending lectures during his junior leaders (JLs) training to become an officer in the Intelligence corp. According to the Officer's Creed (see Figure 5.11) which foregrounds the honouring of God above all else, as an officer, he takes this instruction to mean that he needs to be accountable to his conscience and this gives him courage in many challenging situations (Mirkin, 2021). During the training, they are taught a lot of misinformation about the political and religious rights of the government to dominate Blacks in South Africa. The irony of the army accusing the 'enemy' of misusing liberation theology from the Bible to justify their 'communist, terrorist activities' while the army uses the Bible to justify apartheid, is lost on WW23s officers and fellow JLs.

During these lectures, WW23 and a few friends from liberal universities take turns to put up their hands and ask questions to show how incorrect the information is. The officers get very unhappy when this happens and threaten to punish the whole group. On one occasion, it is WW23's turn to ask the questions. The officers get very angry and issue stern threats to the JLs. After the session, four very large Afrikaners come threateningly up to WW23 and surround him. He thinks to himself, 'So this is how it happens. This is how I die.' He is now entirely unafraid, having resigned himself to this possibility. As they surround him, he looks calmly up into their faces and relaxes himself further, jokingly thinking, 'Wow, it takes four huge men to beat up one tiny Engelsman?' He takes his time, looking from one face to the next, and by the time he looks into the face of Johannes, the last and largest of the lot, he sees a soft, loving smile radiating down on him. WW23 can see that Johannes has been asked to join this intimidation because of his size and strength, but Johannes has already formed a respect for the way this little Engelsman has put up no defence and has no fear. Johannes and WW23 look at each other for a while and WW23 realises that Johannes has found a love for him that will protect him from anything and anyone. WW23 realises that he has just encountered a miracle of the Afrikaner kind and he experiences that this is a people akin to his own Jewish–Catholic heart. He and Johannes become close friends although they have little in common.

WW23 realises through his encounters with Afrikaners in the army that in his younger days he has made an unconscious mistake about the racial hatred held by supporters of the National Party, the enforcers of apartheid and the ruling party of South Africa. He knows that some carry a hatred for Blacks, other languages and other religions, but this is not always the case. He has seen it in Dirkie, Johannes and many others. Despite the enormous differences in political and religious views, he often feels more at home among such Afrikaners than among the people with whom he grew up. Most Afrikaners are religiously Christian, so WW23 believes that his affection for some of these Afrikaners is because of what he calls, their 'religious heart', their open-hearted warmth in the way that they love. Being with them feels

to WW23 a bit like being in nature, where surprises continually arise and yet everything makes sense. WW23 is, by now, growing his wreality to look for all forms of positives from culture, race, science and religion. Although he finds a lack of scientific thinking in his Afrikaner friends, the abundance of their religious feeling is something that he loves and respects and that he wishes to learn.

We now see WW23 sitting on a couch in his father's lounge. He is home on the last night of a pass from the army. His father is lying on another couch, deep in thought and worried. They are talking about WW23's oldest brother who is about to get married in a Christian church. WW23's parents had divorced several years earlier due mostly to their religious differences and his father does not want his children choosing to be Christian. His father discusses his options of going to the wedding or not and asks WW23 what he thinks he should do. This is the first time ever that his father asks him for advice. WW23 asks, 'Do you want to know your grandchildren? If you do, you should go. If you don't go, you will alienate yourself from Andrew and his wife.'

His father thinks for a long time and then gently asks, 'Philip, are you Christian?'

WW23 says, 'Yes dad. I am.'

For a long time, his father holds his own face in one hand and then slowly and quietly says, 'Philip, you are no longer my son. Tomorrow, I want you to take all your things to your mother. Please don't come to my house again.' WW23 is sad to hear it, but really grateful that his father does not shout at him or argue with him. He also trusts that his father will change his mind; he will not want to lose two sons.

WW23 does as his father asks, but as he arrives at his mother's house on his very next pass from the army, his father calls to speak to him. He invites WW23 for Shabbat dinner. The Jewish Sabbath, or Shabbat, is celebrated from sunset on Friday evening until sunset on Saturday evening. The welcoming in of the Sabbath is an important occasion and is celebrated with the lighting of candles, the saying

or singing of prayers of thanks for the bread and the wine, and for dedicating the time to God through the cessation of all work for 24 hours. WW23 sings the prayer over the wine and bread at the start of the meal. He has always loved this ritual and insisted on singing it for the family for many years. During the dinner, father asks WW23 to visit the rabbi. WW23 goes to the rabbi and they talk for half an hour about the difference between Judaism and Christianity. He leaves the rabbi and goes straight home to his father. Upon arrival, father greets him with good news, 'The rabbi says that I have nothing to worry about. He says you talk like a Jew, think like a Jew and argue like a Jew.' He finishes his sentence with a warm chuckle. As we look at WW23, we see his pain at believing that the rabbi has only told his father what he will see as positive. He sees the comfort this has given his father. WW23 wrestles with what the rabbi's wreality must be that he only told his father what would bring him peace and avoided mentioning anything upsetting.

On the road to my mother: a visit to the spiritual world

[WW addresses the audience]

WW: This story tells of the most powerful religious experience that I have ever had. It took me many years to recover from it, but it forms the essential basis of my subjective proof for the nature of the spiritual world, often called the Kingdom of Heaven.

My wrestle for wreality, rational and deliberate as it is, had already received some help in my meetings with e and Anthroposophy. In this experience, my wreality received a new and powerful ground for wrestling with religion scientifically through subjective evidence. Many events led up to the possibility of this experience, but they seem to have had their beginning at a priest training seminar that I attended when doing my JLs early in my first year of the army as WW23.

I had obtained leave from the army to attend a seminar for people who were thinking about becoming a priest in the Christian Community in Cape Town. The seminar was one of those few occasions where I said very little and listened a lot. On the

evening after the close of the seminar, I attended the 21st birthday party of a close friend. Here I danced with a girl that I knew and liked a lot. She was trying hard to have a good time, but despite her efforts it was clear that she was not happy and was wrestling with some personal troubles. I experienced a strong feeling of care for her.

I went back to the army in Kimberley and returned to Cape Town about two months later. On the train ride home, I felt a great sense of fullness at my swelling love and anticipation for everything that I was looking forward to doing. In the train compartment, the only other Englishman and I started a conversation in English on such a convoluted level that our Afrikaner companions could not understand us. He had gone to Rondebosch Boys High School, a brother school to my SACS, and we were feeling quite superior watching the expressions of confusion on the faces of our companions. When we began mocking them for their lack of comprehension, I felt the wrongness of this and stopped. Stopping softened and strengthened my already present fulness of love and joy in life, and I radiated this onto all of my companions. I got off the train at Rondebosch Station and walked on the road beside the tracks towards Newlands where my mother lived. On the other side of the tracks I could see the house of the girl from my friend's 21st. I felt lovingly and sexually aroused at the thought of her and saw her vividly in my mind. I then recalled her inner pain and discomfort at the party. My mental picture instantly changed, all desire left me and was replaced instead with a loving care and compassion that overtook everything else in my mind.

The compassionate love grew enormously of its own accord until it burst through the top of my head and I was suddenly no longer able to experience anything through my physical senses. The mental picture of her disappeared and now saw that I was encircled by about seven large tongues of flame and I was also a tongue of flame, not unlike an enormous candle flame. As flame, I was blessedness, powerful, incineratingly hot and blindingly bright, and yet all of this felt infinitely more health-giving and joyous than anything that is possible to experience 'normally'. I could feel that I was entering down into my body through the top of my head and could feel how the bottom of myself as flame was burning away impurities and blockages in my abdominal area. It felt like I was a powerful healing fire that was trying to take hold of my body which seemed ill-suited for the job and needed transformation. The feeling of health and healing in my body was so powerfully blissful that I soon wished for it to never end. In that moment of wishing, it ended, and I found myself back in my body walking on the road towards my mother.



Figure 5.12: Picture painted by WW27 during his Waldorf teacher training about four years after his experience of being flame with surrounding flames in red (Mirkin, 2021)

In the months and years that followed, I felt both blessed and cursed by the experience. I was blessed in that I now knew from first-hand experience an aspect of the nature of the Kingdom of God, and that the usual descriptions of it do not do it justice. I was also cursed in that I was no longer interested in anything of this

world. The bliss and blessedness of that world was so beyond anything I'd ever felt that this life seemed like a cursed one. I longed to be back in that world and believed that I had been rejected as unworthy because of my desire to keep the feeling of blessedness. I felt like I had literally been invited as a wanderer on the biblical highway, to the wedding. Having been found to not be wearing a proper 'wedding garment', was thrown out, bound 'hand and foot' into the 'outer-darkness' of 'weeping and gnashing of teeth' (Matthew 22:1–14). It seemed to me that our normal world is in fact the world of outer darkness for one who has been so cast out.

Once I had come to terms with my feelings of blessedness and rejection I could reflect more clearly on the experience and made some remarkable subjective findings. One significant realisation was that I had indeed had an experience of heaven, paradise, or Kingdom of God. This was confirmed for me by the references to the burning bush in the Old Testament and the Pentecost event mentioned in the New Testament where tongues of flame descended on the disciples.⁴² Another realisation of importance was that the Kingdom of Heaven is indeed within. This is often mentioned in religious texts but I had not realised that we literally have to go inwards into our mind and become an independent entity in order to experience it. I realised this when I recalled how I distinctly identified with being flame and not with my body. It was my re-identifying with my body as it experienced the healing fire that resulted in my rejection from that world. One further thought on the experience is that I-as-flame was penetrating down into my body. I had not drifted off and lost contact with my body but was, in fact, trying to heal my body as though I was trying to transform it to become a suitable home for my flame-self. It felt like I-as-flame was literally trying to be born into my body. It seemed to indicate that this new self, my Spirit Self, was not an existence to be had only in some separate heaven, but within our physical bodies in this world.

⁴² This is predicted by John the Baptist as a baptism of fire, as expressed in Mathew 3:11 and Luke 3:17. It is also described in Acts 2:3, where tongues of fire divide and descend upon some disciples. In the Bible, this event is preceded by a rush of wind and is followed by speaking in tongues, called glossolalia.

I now looked at the events of Pentecost with a new insight and concluded that during the 50 days between the resurrection and Pentecost, Christ might possibly have been preparing the flame-body for each human being as a true redemption from the hardening effects of this world. Much of what seemed like stories in the Bible were now becoming intellectually sensible as subjective proofs based on my personal, experiential evidence.

--oOo--

The wrestle continues, testing my new wreality in the world

Trying to integrate this new experience into his wreality, WW23's wrestle now has a completely new focus, one which throws him quite off balance. To his surprise, over time, he manages to settle down and is somehow able to cope with life as before.

When WW23 and his army friends become army officers, he sees what a big event becoming an officer is, and how their families come up to honour the occasion. No-one among WW23's family or friends from home are interested that he will become a lieutenant. It is clear that they do not understand or value it. They seem to see the army as a duty you are forced to do and get over with; a bit like paying tax for being a White male with all its privilege.

As an officer in his second year of army, WW24 works in Namibia. Namibia is called South West Africa at this time and is still under the control of South Africa. Army conscripts are sent there to fight against the 'Rooi Gevaar', the 'red communist danger' called SWAPO, the South West African People's Organisation, whose liberation struggle operated armed incursions into northern Namibia with their allies out of Angola. In Namibia, WW24 works with groups of indigenous people from the army as well as teachers and the wives of top-ranking army officers. They need to write poems, sing and make posters to express ideas. He is so pleased to see the use of the arts in the army when even at university these were not a part of any

training that he was party to. This is the second time that he is aware of using poetry to convey his wreality, the first being when he ran for the SRC at university.

His first duty as an officer is to deliver a lecture on the biblical Creation. The material he receives to prepare for this lecture does not include ideas of evolution, but his developing holistic wreality with science and religion, which now includes an experience of the Kingdom of God, obliges him to include evolution respectfully alongside biblical Creation. During this first lecture, the Major, who runs the army base and course in which WW24 is giving the lecture, sits at the back, glares at WW24 and then storms out of the room. When tea-time comes at the end of the lecture, no-one leaves the room. The roughly 50 soldiers come up to the front and cannot stop asking questions. The Major eventually comes to fetch him in a threatening manner but then shakes his hand and congratulates him on an excellent lecture. The next day, the Major invites WW24 into his office and proceeds to ask him questions on the topic, later explaining that his father believed in scientific evolution and that this had caused a bitter conflict between himself and his father. WW24 perceives that behind the mask of total control and confidence in the Major, there lives a human being with doubts and unresolved personal and spiritual worries. The hardened, complete control of all aspects of life within the army had made WW24 falsely believe that those who ran the system did not question their wreality.

We are now with WW24 sitting around the table with about 12 follow officers. It is Sunday morning and the Dominee⁴³ is reading from the Bible to the group. He finishes reading and leaves a minute of silence. The Dominee then gives a short talk on his church's interpretation of what he has just read. Again, a minute or more passes in silence. WW24 then speaks, 'Thank you Dominee. I liked ... of what you have told us. In my opinion, I think that the Bible reading might mean ... Do you

⁴³ Afrikaner Minister of the then dominant Dutch Reformed Church, the main Afrikaans church of the ruling National party and the army. The officers were all required to attend the prayer group.

think that it could be interpreted like this?' Immediately, others in the group share their opinions and a discussion ensues.

The scene is repeated almost identically one week later with individuals sitting in different seats. We then see short scenes of small groups of officers gathering in random places heatedly discussing the Bible study during the week with Bible in hand. WW24 loves these debates as he can see how earnestly his fellow officers wrestle to find support for their own interpretations and counter the alternatives.

Some months later, WW24 is sitting on his bed in the officers' barracks which has about 12 beds in a row in a long room. We see that he is deeply engaged in a book about reincarnation called *Karmic Relationships* (Steiner, 1974). There are three small puppies lying on the floor which get up to greet the Dominee as he walks into the room. He reaches down to pick up a puppy and strokes it lovingly. He sees the book that WW24 is reading, recognises it from a previous encounter and then says sarcastically to the puppy, 'Perhaps you should read the book that Philip is reading. You may also find inner peace.'

WW24 looks at the Dominee and sees that he is trying to provoke him to anger. The Dominee associates the book with the New Age movement which he dismisses as being out of touch with reality by wanting its followers to escape into peace. He clearly wants a fight. WW24 says calmly but with the wish to bait, 'That is very insightful Dominee. I am sure that the dog could get some benefit from this book.'

Soon, while the two are arguing about religion, the Dominee tells WW24, 'You are not a Christian,' which to the Dominee means that he believes that WW24 is condemned to hell when he dies. WW24 is upset but not too annoyed with the Dominee. He is more interested in how the Dominee is reacting to him reading a book on reincarnation. The Dominee is becoming more and more heated and eventually says, 'Do you remember the Bible study that we had at the beginning of the year? Don't you wonder what happened to it?'

WW24 thinks back to that time and realises that they only held a few Bible studies which then just seemed to stop. Genuinely intrigued he replies, 'Yes, Dominee. I really enjoyed those. What happened to them?'

The Dominee says, 'We stopped them and started a new Bible study without you. We wanted to hear the Word of God and not Philip's opinion.' This comment has the desired effect and WW24 loses his temper and tells the Dominee in graphic terms what he should do – then he leaves the room to go to lunch, slamming the door behind him.

Now, some 32 years later, Wreality Wrestler realises that the ruling National Party and their version of Christianity formed the solid ground upon which their education, apartheid, and army policies and practices were built. Where the Major could have discussions with WW24 about religion and science, WW24's growing holistic wreality was correctly seen for the danger that it presented to the ideology of apartheid by the Dominee. Wreality Wrestler now also sees the greater South African backdrop to peoples' antipathy to discussing or being open to discuss and debate religion. He recalls the time in high school when the Jewish children had been taken out of religious instruction lessons, and how he had been really enjoying the discussions in those classes prior to the separation. He now thinks that perhaps the separation occurred because of his opinions during class. He realises how, in his Cape Town, liberal, White, English-speaking world, religion was regarded as something private and not to be used in general discussion. It was scientific thinking and reasoning that dominated idea-based discussions. This experience showed that the National Party which dominated the Afrikaans world was no different. Wreality Wrestler realises that in both his background English world and the army Afrikaans world, Comte's positivism still ruled the way of applying reasoning to things of matter. He believes that Kant would be weeping bitterly at the missed opportunity for his enlightenment by avoiding such debate in relation to religion (Kant, 2019).

We are now in 1991 and WW27 has finished his time in the army. He is in his third year as a teacher and is back in Cape Town studying Waldorf education while teaching part-time at a Waldorf school. We find him meditating in the lounge of his rented, shared home in Observatory. He is alone and pondering the possibility that perhaps the Dominee is right, perhaps he is not a real Christian. He realises that he is afraid of reborn Christians as they seem so convinced of their path, which he now thinks may be the right path. Reborn Christians in South Africa are Christians who believe in a particular approach to Christianity, one that usually involves following a specific set of beliefs and practices. They often believe that only they know and follow the path to salvation and will go to heaven for eternity when they die. He decides to test reborn Christianity.

WW27 finishes his meditation and the doorbell rings. Remarkably, it is two young men claiming to be reborn and wanting to discuss Jesus with him. He invites them in and they meet for several weeks as the reborn leader guides WW27 through his initiation. Initiation involves taking well-selected, short Bible passages, sometimes only one sentence long, and sewing them together as though they are written in sequence. When WW27 points this out and asks the leader to read the context for each passage, the leader's story starts to unravel and soon the leader, despite being young and very English, is looking and sounding like the Dominee from the army. Having been well taught by the Dominee, WW27 asks the reborn's to leave.

We now look at WW27 as he settles himself in his meditation seat and we see a growing peace and confidence as his broad scientifically religious wreality swells in his heart and mind.

In 1991 WW27 goes to a Hindu wedding in Durban, South Africa. WW27's close friend, Sandip, lives in an Indian community and is about to get married. WW27 goes to Durban where he and Sandip share a room in the days before the wedding. Although the laws of apartheid forbid White people to stay in Indian areas, this law does not seem to be enforced anymore and neither WW27 nor Sandip are concerned about it. On the morning of the fourth day together, they wake to discuss

the events of the day ahead. WW27 gets up, sees himself in the mirror and thinks, 'I'm really pale.' Then he laughs as he realises that his is the first White face he has registered in four days. He is amazed at the speed with which he has assumed he looks like everybody else.

During his Waldorf teacher training, WW27 needs to do clay sculpture, drama, painting, drawing, woodwork and metalwork. His art teacher gives them a large piece of good quality paper and one red block crayon. He tells them to 'feel the red. Move the crayon on the paper in a red way.' WW27 has no idea what to do since he does not know how to begin knowing what red should feel like. He cheats by copying what others are doing. He assumes that redness is something universal and specific that he should somehow know. Here, his wreality learns that he needs to develop his subjective intuitions and to trust them more.

This same teacher, Benni, also tells them when doing wood carving, that wood is 'fossilised sunlight', and they should work it with this understanding. This makes a deep impression on WW27 as this is indeed scientifically true and yet is presented in such a way that the imagination is powerfully stimulated. This notion really excites WW27 and he decides to use this kind of presentation when teaching science.

His Waldorf science teacher describes the periodic table as a picture of the evolution of matter from the big bang. WW27 is already familiar with this from his scientific background, but the teacher then goes on to show how the evolution of matter resembles the growing up of a child, with the earliest-formed elements of hydrogen and helium displaying the qualities of infants, and, as you move down the table, the elements show qualities of aging until the radioactive elements at the bottom 'die' as they release dangerous radiation and fall apart to form smaller or 'younger' elements. Wreality Wrestler realises that this type of thinking is where the seeds for his science poetry and prose can be found. At the Waldorf school and in his Waldorf training, WW27 experiences for the first time a culture where the approach to science and religion overlap through the use of the arts. He is able to really engage in his wrestle for a holistic wreality openly and comfortably, and many others in this

environment seem to wrestle in a similarly open way. His experiences in the Waldorf environment change the way that WW27 wrestles for wreality in that he now has a community of like-minded people who share their own wrestles for wreality. In this community, they usually say a verse before or after each meeting and at the start of the school day, and he is stimulated to write verses to inspire and create the appropriate focus for some of his classes. It is the selfless support that WW27 experiences at some Waldorf schools that inspires his descriptions of the relationships between the inhabitants of his created metaphorical land where this presentation takes place.

[A quiet cheer rises up from the audience at this reflection.]

WW29 learns of the Alchemist approach to acids and bases which, years later, stimulates him to write the poem that he uses in his master's study. He uses this information to now trust his own imagination when approaching any section of science; to trust that everything is connected to everything else, and that these imaginations can and should be used in his teaching of science. He learns that this approach towards science is one that was used by Goethe in his scientific investigations (Von Goethe, 2009). Several years later, while teaching at Constantia Waldorf, he is inspired to write a piece of creative prose for the first time since school. It is inspired by a comparison between the scientific approaches of Newton and Goethe. He uses Newton and Goethe to represent specific scientific approaches even though they are by no means the only scientists that hold those views. He shares this writing with the English teacher who mentors his creative writing.

My creative-writing letter from Wolfgang von Goethe to Sir Isaac Newton

WW:⁴⁴This creative writing piece shows WW29 that his wrestle for wreality has now begun engaging with science and how to experience and express it artistically and with religious feeling and ideas.

100 years apart does not begin to show the distance between us.

You, cold, hard, analytical, fought your way through obstacle after obstacle to achieve your aim, your fame. The most famous book of any scientist of any time belongs to you (Newton and Chittenden, 1850).

Yet, I pity your loveless world, your analytical cleverness. Your presence may have been strong, yet it was not for life but for death, even your own death.

Oh, loveless Isaac Newton, you cheated me by being before my time. You avoided the greatest battle you could have faced, that of passion, of a soul who believes that poetry and science are one. And you, the killer of their union have desiccated the thoughts of mankind as they try to grasp the physical world only through mathematics and theoretical constraints. Isaac, the world is real. But then how would you know, having never known the love of a woman or man, not even as a friend. Your need for love must have been great, so gaunt and thin you were, so needy for the recognition of your peers; you poor, lonely man.

Now you may rest. Rest by seeing the flesh put back into human thoughts about the world. I have loved many, and I have loved much, and for that have been scorned by society; and by the scientific world because of you. But I know I'm right and will not restrict my living thoughts to the rigid forms you left. I know I'm right because my senses tell me so, because my being rings loudly and in tune with the music of the spheres. I am a man of flesh and know that flesh is soft because it is filled with love. And so I love even you, not in spite of your hardness, but because of it. Come,

⁴⁴ Once again, when WW is written like this, it denotes the current, adult me as Wreality Wrestler addressing the audience to give context for a presentation.

Isaac. Eat my flesh. Eat the flesh of my living thinking for it is filled with love for you. Eat my flesh because I give it to you that you may be filled, and that you may rest at last out of your head and in my lap.

I hoped to be remembered as a scientist but as such I am forgotten. People think of me as a poet, a writer or a philosopher, and I weep loudly and with pain because of their blindness. The day is still yours in the field of science, but it will be mine when once again our human hearts and minds seek union and demand to be recognised with equality. I never gave myself up as the centre of what is real. Unlike you, I never called for the sacrifice of the human soul for the sake of knowledge. We are both dead, but I still live and with life to give, whereas you give only more death.

See once and for all the deadly fruits of your labour and come to me, and eat, and rest.

---oOo---

WW29 still lives in Observatory and often takes a third-class train and taxi to his work in Constantia. Both of these modes of transport are used mostly by Black workers as they are cheaper than first-class. WW29 knows that if he takes a particular train carriage there will be a Christian church service there. This carriage is easy to find because of the singing and rhythmic beat. The singing speaks of pain and redemption, of healing and blessedness. One song rolls into the next as the leadership falls on the one who is inspired with the next piece. The congregation and its leadership flows on and off the carriage as we pass station after station. Sometimes a man will break the music with a prayer. If he carries on for too long, one of the women will politely take up a theme of what he is saying in a new song that then starts up mid-sentence.

The 20-minute train ride takes him into a different world. His heart soars with the spirit of redemption. Even though he is the only umlungu (White person in isiXhosa) in the train carriage, he never feels conspicuous. From the train, he accompanies some of the women into a mini-bus taxi for the last leg of his journey. The taxi will

drop him off opposite his school, but on the way the women disembark to work in White homes in the wealthy suburb of Constantia. He feels the power of these love-bearers as a healing yeast being folded into his White English culture. He thinks about the White children who will receive this love and about the women's own children who have been left at home or who, perhaps, live with their grandmother back in the Bantustan of Transkei. The Transkei is one of many large areas that the apartheid government has set aside for Black people to give them a separate environment to live a more rural life away from White people. Transkei, the Bantustan where Nelson Mandela was born and grew up, is over 1 000 kilometres away from Cape Town in the Eastern Cape, from where many of these Xhosa women have come for work.

WW29 works in a Black township education centre in Gugulethu, Cape Town, on Saturday mornings teaching nine- and ten-year-old children reading, writing and mathematics. He works alongside a married Xhosa woman who is struggling to fall pregnant. She invites WW29 to accompany her and her family to a river near their home. Here, many Christian and African traditional prayers are said and she is submerged into the river to help her conceive. They all travel back to the house of the couple where she then enters a hut that has been built solely by her husband so that she becomes surrounded by his influence. The intimacy with nature, with the relevance of the flowing river as the act of opening her womb and the husband-made hut as the act of her being fully taken up by her husband in these rituals, moves WW29 deeply as he can immediately recognise the reality of each. It resonates with his own deep relationship to simplicity and nature. The couple say they are Christian and yet they have chosen this traditional ritual to solve their practical natural dilemma. Although many around them see the couple's choice as a contradiction, WW29 is impressed to see how this couple embrace a holistic wreality that includes their indigenous knowledge and religious beliefs. This experience makes WW29 realise that he does not have an indigenous knowledge base to draw from as his world was already permeated by rational, objective thinking when he was growing up. He recognises the role that nature has played in filling

this gap but wonders how his lack of indigenous knowledge affects his wrestle for wreality.

Being told of a near-death experience visit to the spiritual world: Story 1

A young man buys WW29's motorbike. They agree that he will take the bike straight away and pay it off in monthly instalments. The young man misses two instalments. A few weeks later, WW29 has a knock on the door. It is the young man. He is on crutches covered by an almost full-body cast, but his eyes are shining and bright.

WW29: What happened to you? I thought you had run away and skipped your payments.

Young man: I had a crash. I was riding down the road and a car coming the other way was going to turn in front of me. I was going too fast to stop so I flashed my lights at him. He turned anyway and I hit him. I flew over the car. When I landed, I turned around to see if everyone was alright, then passed out. I saw a door. It opened and I walked into a room filled with really bright light. It was best feeling ever.

[As he speaks, his face lights up and he is reliving his time in the light.]

Then an angel came over to me, put their arm around me and led me back through the door. The door closed and I found myself in a lot of pain on the road. This was two months ago. That's why I haven't been to pay you.

--oOo--

In 1996 WW33 is now married and his wife, a musician and music teacher, gives birth to their first child. He is now on the management team of the Constantia Waldorf School in Cape Town. This Waldorf School was always a non-racial school and, as a result, suffered financially and politically under the apartheid government. This resulted in the school being too expensive for most Black students. Ironically, in post-apartheid South Africa, the school is regarded as a privileged White school

and still suffers from a lack of government funding. At Constantia Waldorf, WW33 is mentoring the new Xhosa teacher. She is the first Black teacher at the school and things have not been going well. Several senior staff have already tried to help her to adjust to the school culture and failed. WW33 tries to help and immediately notices that she gets shocked into disbelief that the children do not automatically respond to her presence when she enters the classroom. He advises her to sing one of the songs that she has taught them when she enters. She does this and the class spontaneously sing along so that they are at their desks and ready to learn by the time the song is done.

She is now looking at WW33 with great confidence because he has helped her to understand how to structure her lessons so that everyone is happy and the children are learning well. Having worked closely together now for several months, she says with great earnestness that she knows that God loves WW33 very much. He looks back at her and fully trusts and believes her. He feels truly and completely loved by God thanks to her confidence. WW33 enjoys a growing confidence in his wreality that seems able to enrich and be enriched by the wreality of people who come from very different backgrounds to himself. He particularly enjoys being able to partake in other peoples' religious wreality as it feels so filled with trust, love and respect. WW33's wrestle for a holistic wreality now has a firm and creative relationship to science through his use of artistic imagination and creative writing and to religion through his ability to embrace a religious openness and sincerity with people from all religious backgrounds.

WW34 takes some of his students to hear the Dalai Lama give a talk at the Kirstenbosch Botanical Gardens in Cape Town. The Dalai Lama tells a story of how much love and compassion the Buddha had for everybody with whom he had contact. He says how everybody benefitted from the Buddha's compassion, but that 'he became the Buddha'. Wreality Wrestler recognises that WW33 doesn't fully understand what the Dalai Lama is meaning. It is from Wreality Wrestler's own spiritual experiences, that he now understands that the very act of having

compassion seems to open the capacity for spiritual transformation that the Buddha experienced.

WW35 is pushing his 2-year-old son on a low swing. The boy is enjoying being pushed and WW35 is watching his enjoyment. Son and father are now looking into each other's eyes. His son is having a good time and is laughing harder and harder. WW35 now looks only into his son's eyes and begins to drink in his son's enjoyment. Soon the rest of the world is less in focus and his son's face – now closer and big, now further and small – is all he sees clearly. In their mutual enjoyment, both seeing only the other, WW35 senses, but does not actually see or hear, that they are surrounded by singing angels. This continues for some time – shared bliss.

WW35-40 keeps working at Waldorf, growing his holistic wreality through his work with colleagues, most of whom engage earnestly with their work, trying to bring Steiner's educational ideas into relevant and meaningful practice. His science teaching now incorporates elements that bring some of his students to write poetry on their own relationship to science and technology. His students say things like, 'I come away from this main lesson on the atomic theory with the most wonderful feeling of having really put myself into something', another says, 'One of the main differences between humans and chemical elements is that the elements are constant in their characteristics', and yet a third says, 'It had meaning for me, it wasn't dull facts. Thank you for bringing chemistry to life for me' (Mirkin, 2021). One further student tells him that their lesson on chemistry gave her the insight to start believing in God again (see Figure 5.13 for some students' original comments). This type of consistent meaning-rich feedback from his students gives WW35-40 enormous confidence in the mental-health-benefits of teaching science holistically with the depth of religious feeling towards scientific facts.

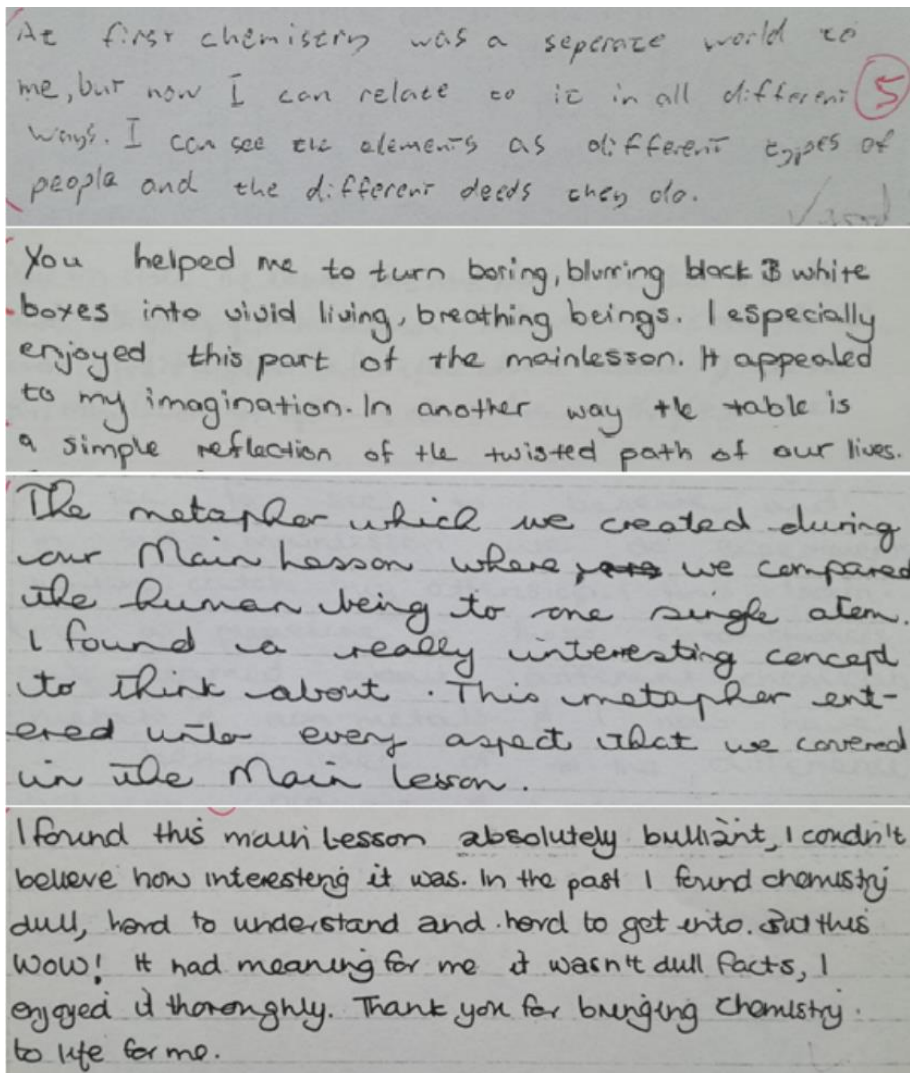


Figure 5.13: Feedback from my chemistry students who were taught holistically using imagination and metaphor, enabling them to experience an intimacy with the work (Mirkin, 2021)

WW40 has no wish to leave this school, but he now has two young children with his wife and they are feeling unsafe where they live in Observatory. WW40's wife has been mugged, their car and his wallet have been stolen, their home security light has been ripped off their front wall and his house has been broken into in full daylight. WW40 decides to work in another country for one year to get his young family out of what he perceives as a dangerous environment and to give him time

to decide on his family's future. He and his wife regard New Zealand as a very safe country and a great place to have an adventure while processing their future.

Many White South African families had already moved overseas to countries like Australia, Canada and New Zealand where they perceived that they would be safe from the political and security troubles that they believed would occur when the ANC would become the ruling party of South Africa. This idea of running to safety, being repulsive to both WW40 and his wife, does not form part of their motivation to go, and yet their life circumstances make them behave in the same way.

WW40 and his family move to Wellington, New Zealand, where he teaches in a Waldorf school, known there as Rudolf Steiner schools. A few months after arriving in New Zealand, WW40 and his wife decide to stay in New Zealand for five years as one year will not be enough to get to know this wonderful country and its people. He is invited to watch many rugby games when South Africa play, so he becomes friends with the rugby crowd. He joins the crowd in a local pub to watch the World Cup final between England and Australia as this crowd has people from both nationalities. His family has now been living in New Zealand for two years. While talking to a friend, his heart gives a sudden powerful leap in his chest and he does not know why. He searches for the source of the stimulus and sees that a television is visible to the right of his peripheral vision. He looks at it just in time to see the South African flag passing off screen as the camera pans the flags of all the nations that have participated in the cup. He realises that his subconscious mind has seen the flag and jumped with longing at the sight. He is pleased that his subconscious wreality feels so strongly towards South Africa. He is pleased to realise how physically, emotionally and spiritually strong his connection to South Africa is. Wreality Wrestler now finds, having lived in New Zealand for nine years and in South Africa for 10 years, that his heart now does a similar thing with both countries' flags. WW40 realises how everything he does becomes embedded in his wreality whether he intends it or not. Wreality Wrestler realises that our Growing Selves' wreality grows simply by living and that even if we are not conscious of it we may form strong

attachments to things. It seems to him that these attachments are not just made in childhood but throughout life.

In New Zealand, WW40 is teaching the development of calculus, the theory of finding derivatives and integrals, to a mathematics class of 16- to 17-year-olds. The process followed by Isaac Newton, who developed calculus, involved taking real life scenarios, where all the details of a situation are known, and systematically replacing concrete values with abstract symbols, until only symbols remain and a general formula is developed that can be applied to any situation. In teaching calculus to his students, WW40 realises that this is like walking across a bridge where initially you can see the bridge, the handrails and the other side but, by the end, all visible elements have gone and you are only able to take your next step forward because you have created it through your confidence in understanding the mathematics. Each step is created, one at a time, until the process is complete and the students find themselves safe on the other side. The gradual releasing of all the standard measures of security like eyesight and bridge are experienced by the students when each concrete value is replaced by a symbol that can be generalised for any value. The students keep 'falling off the bridge' until they develop the confidence and trust in the power of their abstract thinking over their given senses. Some students do not manage to 'cross the bridge' by the end of their time together, but they have all witnessed the great majority who have, and the enormous sense of achievement they gain from it. They also strengthen their support for each other as they work to help each other over the 'gap'. WW40 is immensely happy to have found a way to bring an experience of the power of strong, clear thinking to his students in a way that they can become aware of what they are doing as they do it. He is also happy to have found a demonstration for his conviction that logical, rational thinking is an essential tool in his wrestle for wreality.

WW42's younger son is now nine years old. He asks, 'Dad, how does the sun work?' WW42 describes how the sun pours its light and love down to the Earth where all of life rises up from its night-time sleep to greet it. Son now asks, 'Dad, how does the sun really work?' For the first time, WW4 answers his son's question with a

scientific view of how the sun generates light and warmth. WW42 realises that his son has made a developmental shift into a more objective and rational approach to knowledge and a purely imaginative explanation no longer satisfies his need. Wreality Wrestler sees this developmental shift as a portal to a kind of thinking that resembles Comte's move to positivism, and possibly why Comte declared other forms of thought as immature (Comte, 1976).

WW44 is suffering from burnout from not making enough time to integrate his wreality into a meaningful whole. His working life at the Waldorf school in New Zealand does not provide him with the type of support and stimulation that helps him to feel that his world makes sense. To integrate his new life into his wreality, he spends about eight days over a six-month period at a Buddhist monastery set in a forest near where he and his family live in Wellington, New Zealand. While there, he lives the monastic life of morning meditation from 4:30 to 5:00, ablutions and breakfast till 6:00, working mostly in the garden until 11:00, preparing and eating lunch before 12:00, off until 18:00 tea with blocks of cheese and dark chocolate and meaningful conversation with the monks. They meditate and pray by putting their hands in front of their chest and bowing down to the ground as Hindus and Muslims do and as Jews used to do in the past. WW44 feels a harmony between his Jewish-Christian wreality and Buddhism. He holds many rich and moving mental conversations with the sculpture of the Buddha, an androgynous-looking figure that is placed as the focus in the temple (see Figure 5.14). At the end of each stay at the monastery, WW44 returns home happy and settled.



Figure 5.14: The Buddha, Stokes Valley monastery, New Zealand (Mirkin, 2021).

Somehow for WW44, life does not feel as meaningful in New Zealand as it did in South Africa. He thinks it is because in South Africa people regularly give warm and direct feedback and in New Zealand he has not learned to accommodate the relative coolness of human responses. He believes that he needs to pray or meditate regularly to keep his wreality positive in the absence of this regular affirmation from his environment. WW44 also reflects on how physically safe it is to live in New Zealand compared to South Africa because all aspects of life are so organised and under control by the authorities. He suspects that the prioritising of outer safety and control may have led to a lack of warm spontaneity from people in New Zealand, which, in turn, has left to him feeling emotionally unsafe. He suspects that this New Zealand focus on controlling so many aspects of life without a religious or emotional warmth behind it, may be why some of his New Zealand teenage students regularly speak openly about drinking alcohol to the point of wanting to pass out over the weekends. He thinks that the country's perceived need for control might explain some of the other acts of random carelessness and destructiveness that he has observed in some of his students' behaviour.

Seeing the music dragon

[WW addresses the audience.]

WW: Here is a story of subjective evidence leading to my subjective proof that the nature spirits described in fairy tales may be non-physical but are probably real. Most cultures have stories of fairies and other non-physical creatures who are mostly our helpers, but who can also be our enemies. The story that follows is the only occasion where I personally experienced such a non-physical being.

Let go and know ...

My wife is a classical musician who plays the piano and viola with various groups and orchestras. Working with others in the making of music can be very challenging,

but sometimes the musicians become so comfortably immersed in making music together that something extraordinary happens.

My wife was on the piano accompanying a violinist during a concert at a new venue in Wellington, New Zealand. As always, listening to them play was a liberating experience that took you on a journey through breath-taking vistas, dramatic transformations and deep emotions. In short, there was nothing superficial about their approach or execution even when performing a light-hearted piece.

On the day that our story takes place, both musicians were in a highly agitated state while waiting for the concert to begin. I had gone backstage to check if there was anything they needed, then left the room and sat down in the seventh of the 10-row concert venue. There must have been an audience of about 70 mostly elderly folk in the rather plain, rectangular, low-ceilinged chamber.

The musicians came out, bowed, and began the recital. The opening piece was warm and gentle, and set the mood for the sonata that would follow. The audience was accompanying the music attentively and the musicians were listening closely to each other and growing their trust in the sound that they were producing. When they had warmed up in the venue, prior to the start of the concert, the room was empty, so their sound felt slightly too loud. Now, with the audience present, the edge had been absorbed and the music's rounded warmth filled the room like a hot drink on a cold day, comforting the audience inside and out.

At the end of their first piece, my wife looked at me to check if everything was good and I gave her a double thumbs-up and nodded slowly; our sign that everything, from the balance in volume between the piano and violin, the acoustic dynamics in the room and the audience's responses were perfect. After acknowledging the applause, the musicians changed the music on their stands and paused, looking at each other in preparation for the three-movement sonata.

The first movement was fast and bright and the pianist's fingers were a blur across the keys as she created and shaped the body of sound within which the violinist

could move. With many firm turns of the hips and leanings into her instrument, the violinist poured out the melody with richness and fluidity, enabling the fast-changing music to become one sweeping movement, bringing out the excitement of each turn while making sure that the audience were secure in their seats.

It did not take long for me to lose myself in the music. While so transported, I lifted my gaze from the performers to see how the rest of the audience was receiving this masterwork. The intense concentration and skill of the musicians was overlooked by the audience as they were swept away by the music. It felt to me like the music was a single, living entity that flowed through the audience with a life of its own; and then I saw it. A gigantic dragon-like serpent was swooping up and down over the heads of the audience. It was not as clearly visible as it would have been if it were physical, but my imagination made sense of the bits I could see and the resultant image embossed itself in my mind. The serpent was ferocious-looking but remarkably non-threatening or even interested in the people. It didn't pay anyone any attention, least of all the musicians. It just moved sinuously along with its large head and long, thick, scaly body towards the back of the hall.

I looked at the musicians who were so furiously busy with their heads down in their music that they had not seen what they had done. I was so keen for them to see it that I wanted to leap out my seat and shout for them to look up and see the being that they had brought into the room with their playing. Being well trained by my wife not to disturb the musicians, no matter what, I contained myself. The rest of the concert was just as magical, but the dragon that I had seen had disappeared from view, not to return again.

The end ... almost

The facts of the case are that I did see the dragon. I experienced the dragon as an embodiment of the music and I experienced its existence as independent from the musicians. I do know that all this happened in my imagination so please don't doubt my sanity. And no, I had not been drinking or using any mind-altering substances. I

do have an overactive imagination, but I had never seen such a thing projected out into my environment like this before.

It is the nature of this intuited revelation that we now need to discuss. I am trained in the sciences but believe that science is not yet mature enough to bring us the depth of feeling and artistic insights that I imagine it will in the future. I believe this because of my experiences with my wife's music and because the scientific explanation of the experience takes longer to present than the story itself (Feynman, 1955)! The arts are the carriers of the wisdom of being human, and yet it is through science that we are able to bring a deeper understanding to this experience. It is a match made in heaven, so to speak.

There is no doubt in my mind that the high skill levels, total investment and unusual intimacy of the musicians contributed to the sound they were able to produce. I also do not doubt that the acoustics of the hall must have served to bring the sound to me in a singularly stimulating way. Either way, the sound that reached me must have stimulated me physically and spiritually to such an extent that (and this is the exciting part) what arose up from my imagination became projected into my senses as though it came from the outside! But how could this have happened? And why did the image appear as a dragon?

If I had been sleeping during the concert, I would have known that it was a dream. The unusual power of the music must have had the effect of putting at least some aspect of me into a sleep or dream state and so my dream–fantasy life must have conjured the image that it found most relevant to express my experience. But this cannot be the full truth. True, the music had moved me personally in that I could actually feel myself moving. But I was really enjoying the experience and my previous association with dragons was decidedly not positive. I saw them as mindless and violent creatures who, had I imagined them into the room, would have savagely ripped the poor oldies apart, eaten them on the spot and roasted the rest of us into toasty snacks for later. This leads me to conclude that my unconscious, intuitive mind tapped into associations with which I was not familiar and which led

to the revelation. A New Zealand friend of ours claims to see these creatures on a semi-regular basis. The Māori call them Taniwha⁴⁵ and it is more than likely that this association crept into my subconscious. But, again, my association with Taniwha was decidedly not peaceful.

Shortly before I saw the dragon, my attention was focused on the musicians and how the audience were experiencing the music. It may be that my joy in the perfect immersion of the musicians and my selfless interest in the enjoyment of the audience lifted my consciousness to this new experience. Previous experiences of perceiving the usually hidden spiritual world had all been related in some way to my compassionate interest in others. My compassion for the weed as related in 'e and me' and in the girl that I liked in 'On the road to my mother' seemed to follow the same pattern. I therefore imagine that this feature may have been crucial in enabling this experience.

What I find equally exciting is how the resultant image appeared to have come from outside, through my senses rather than seeing it inside my head. To explain this will require understanding how our senses work, and why we see objects out in the world when our nerves only serve to bring the sense-image into our brain. Suffice it to say that I believe that when I was carried away by the music and my interest in how the audience was enjoying it, my sympathy-driven intuitions were powerful enough to stimulate my optic nerves into bringing my imagination as an outer vision.⁴⁶ Whether I am right in this thinking or not, it is nonetheless extraordinary to think just how magnificent our being is, and what other imaginations await us as we grow ever stronger in balancing our rational and intuitive minds with selflessness and compassion.

And now for the final and possibly most important question: Is the dragon real? Those inclined to rational materialism will say, 'No, it was obviously a figment of your imagination that happened in the way that you described, or similar.' The

⁴⁵ Taniwha is pronounced ton-if-a, with the 'a' pronounced as the u in 'up'.

⁴⁶ See the discussion on our senses and synaesthesia in Chapter 3 of this thesis.

passionate, religiously inclined will say, 'Yes, and you should start a church for the Music Dragon, where believers get swept up into a similar emotional state through music so that they can see the dragon. Oh, and don't forget the shrine and acoustically designed temple.' To which the rational materialist thoughtfully adds, 'True, it could be a great money-spinner'.

What do I think? I think we should take the advice of the title, let go of trying to gain a fixed understanding and allow our objective and subjective experiences to form a harmonious unity.

---oOo---

WW45 perceives that many teenagers in New Zealand are unruly and engage in sex, drugs and drinking from a very young age. WW45 and his wife decide to return to South Africa so that their children can attend a high school where there are real life challenges to engage with and distract them from such carelessness. WW45's wife also says that she finds it stressful to live in an agnostic country like New Zealand. They decide to move to Pretoria, the capital city and an Afrikaans-speaking part of South Africa as his wife wishes to live close to her sister and they both want to live surrounded by a more religious culture. They stay for one more year in New Zealand to prepare their departure for South Africa.

WW46 teaches at Hutt Valley High school for his last year in New Zealand. In his home class of Year 9s (12-year-olds), he has some children from Pacific Island backgrounds. At the start of the year, one boy who is particularly big and strong, Saul, is very bright academically and is doing well in WW46's mathematics class. After the Easter holiday, the class returns and Saul can now no longer do mathematics. His body looks like it is growing at double speed and WW46 needs to give Saul forceful individual attention to engage his mental focus with the work. In consultation with Saul, his friends and his parents, WW46 can find no secondary issues that may have caused this enormous change, and he thinks that Saul's growth hormones have taken over and his mind seems no longer to have the

freedom to engage with academic work. WW46 worries that if this carries on for too long, Saul's confidence in his abilities will collapse. The only other time in his career when he has seen such a strong change in mental ability during puberty is among some Afrikaner boys in South Africa. He begins to jokingly wonder if it is just a coincidence that these two peoples also appear to make the best rugby players in the world.

One day, while doing break duty, WW46 sees that the older Māori and Pacific Island boys have decided to play a game of rugby against each other instead of having their usual mixed teams. He can see how the tackles are becoming more physical and the mood on the field is becoming more personal and serious. He looks around for another teacher, preferably one of the physical education teachers who are bigger and who have worked with these young men before. Seeing no one to call, he must decide to either run for help, firmly believing that a fight will have started before he can come back, or risk life and limb to try and stop the game before it gets out of hand. He decides on the latter and strides onto the field, loudly demanding that they give him the ball. These huge young men look at him, relax, and start to laugh as he walks towards the person holding the ball who then passes it to someone else. WW46 realises he is having success when these young men start passing the ball between Māori and Island players. A tall, handsome, powerfully built Island boy from WW46's mathematics class comes forward and gives WW46 a patronising but affectionate rub on the top of his balding head which makes everyone laugh and the final tension between the two sides disappears. WW46 gets the boys (they no longer seem like big men) to mix up the sides before he allows them to continue playing. The teams mix without any resistance. WW46 does not intentionally allow himself to be the joke that becomes the catalyst enabling the boys to let go of their hardening racial and warrior identities. By keeping focused on his primary intention and not allowing himself to be distracted, he let go of his pride and managed what seemed impossible. WW46 is also aware that both Pacific Island and Māori culture are steeped in indigenous and religious worldviews, and that the

human warmth that occurred so readily on the field may be at least partly as a result of this.

WW48 is now living in Pretoria, South Africa, and is at a social gathering with Afrikaner friends and relatives of his wife. The approximately ten men of the gathering are watching a rugby match between the Stormers, who come from Cape Town and whom he likes to see win, and an Australian team. Initially WW48 is shouting for the Stormers, but when the Australian team play some outstanding rugby he applauds them loudly and appreciatively. After about ten minutes of this change, where his fellow watchers are quiet because the local side is losing, one upset and angry watcher shouts at WW48, 'Philip! Do you have no loyalty man!?' WW48 looks at him, pauses to process the question and the pain with which it is asked, and then quietly and warmly replies, 'Yes, I am loyal to good rugby.' The questioner stares at WW48 in a silence of disbelief and the matter is left in peace never to be spoken of again.

This reminds Wreality Wrestler of his attitude to playing hockey at school. He believes that he was a reasonably good player in a good team, so when an opponent could outplay them he would verbally applaud them on-field.

Educational expressions of WW's maturing holistic wreality

WW47-51 teaches at Queens High School, Johannesburg, a school that was for White students under apartheid, but which was then reclassified as a Model C school towards the end of apartheid which enabled White schools to admit Black, Coloured and Indian students. When WW47 arrives to teach at Queens High School in 2011, it has almost no White, about 85 per cent Black, and 10 per cent Coloured students, but with about 50 per cent White teachers. At this school, WW47 works to find ways to bring his holistic wreality about science education to his students, many of whose parents did not finish school. Most of his students are very religious and WW47 is challenged to show them a harmonious relationship between science and religion for them to engage meaningfully with the science. The syllabus that the government schools must follow does not allow him to experiment as freely as

earlier in his career in the science class, so he starts writing education and science poetry, initially to process his new school wreality, but then realises that he can use his science poetry in class to engage the wreality and interest of his students.

WW47-51's holistic wreality as a science teacher is now populated with some significant reference points which seem to enable him to manage most challenges that he faces. His wrestle is therefore mostly devoted to critiquing and contextualising what he meets in the adult world that does not make sense to him. It seems like WW47-51 is now busy using his wreality to make sense of the very things that he found so confusing to understand as a child. He does this mostly through the writing of poetry.

[WW addresses the audience]

WW: Here, two poems on education and four on science are presented because they were written while teaching at Queens High School and present WW47-51's developing wreality through science and religion. This first poem is WW47-51's critique on the government education system that he experienced in New Zealand and the similar system within which he is now employed in South Africa. In it he questions if the insight and ideas for current governmental education come from anyone whom he perceives as a great leader of humanity, and then presents an appeal for a holistic education.

[A group of children move onto the FoE and enact all the spoken poetry]

Organic, free-range education

The fertiliser of our time

Driving progress and efficiency

Appeals to our small and self-centred mind.

To compete and to win and be better than the rest.

In schools we've devised ways to make this quite fair.

With moderated test and exam results we compare

One child to another and sort them with care

So that ...what? We can sell the best at the fair?

Despite the rhyme I don't feel it this time.

Are we sure this is the best we can do?

Is this the highest our humanity can stretch?

And does this really bring out our best?

Did Mohammed, Srivastava, Jesus or Buddha

Einstein, Faraday, Pascal or Newton

Educationists Hahn, Montessori or Steiner

Advocate this way to make all life finer?

Was it then Moses, Confucius or Plato,

Mandela, King, Lincoln or Gandhi?

All these leaders saw something deeper and higher

For up-skilling humanity and working together.

Life is long and our roots must grow deep

In soil with good nutrients and water that's sweet

Breathing air that is fresh with bird-song and more,

And in light, warm and clear, from just beyond our reach.

Then the being that we are is the being we shall be

Growing in harmony with all human diversity (Not a mass-produced,
monocultural uniformity)

And the fruit we will bear when our season is right

Will be given in freedom, owned by all with delight.

WW: The above poem asks the educational community to examine the inspiration that led to the current system of tests and examinations for separating the students according to ability, work ethic and so on. The poem refers to the great minds of religion, science, education, philosophy and politics and can find none whose wisdom pushed for such a system of assessment. It leaves the reader to think where this system might have originated, and then leaves them with a picture of a holistic educational striving.

WW50 wrote the following poem in response to his perception of the USA policy of no child left behind. His international, Montessori and Waldorf/Steiner educational experiences gave WW50 the confidence to critique educational ideas from around the world using his holistic wreality as a science teacher.

In this poem, WW50 expresses his experience of what he feels to be the meaninglessness of New Zealand teenager life and the lack of religious depth in the New Zealand and South Africa curricula. He imagines that this meaninglessness probably led to potentially unhealthy behaviour. This poem also ends with a natural holistic picture of meaning-rich education. These poems also express the monist holistic wreality which WW50 is developing.

No Child left behind

There sits a child upon the shelf forgotten, left behind.
What should we do to get the child to come and join the crowd?
Loud noises, sad songs and fancy cars; two seconds every scene,
Social pressure, tests, exams, the challenge to succeed.

Twenty years of this grand plan has made the child a man
Who's so sucked out himself there's nothing left behind.
To fill the void where once there was a quiet shelf to find
Is sex and drugs and rock 'n roll; panacea for the mind.

So what real substance do we have to do a proper job
So that the child, full in itself, extends it all around?
It just so happens the child itself has exactly what we need,
With wish to play and learn; a searching mind to feed.

WW: The following poem represents how Einstein's relativity liberated Newtonian ideas from their fixedness. WW50 uses this poem to stimulate the intuition of his science students to bridge their wrealities with the science in the classroom.

[The children arrange themselves into the shape of Albert Einstein's face and speak the following poem, some parts in unison, parts in small groups or as individuals with some quiet and others dramatic and loud.]

Electro-magnetic radiation

Albert it was who started to play
With the space, time and light array,
In search of his father who'd passed away.⁴⁷

Newton's model, as though made of sticks,
Was blown away by AI's mathematics.
Bending space and stretching time. No tricks!

Light is now the solid ground,
On which our universe is found.
To which everything we know is bound.

Yet light itself will itself shape,
To the demands that our experiments make,
And a particle or wave form take!

WW: The next two poems follow the evolutionary journey of matter from the big bang. It is written as a metaphorical holistic evolution from the birth to the death of matter and represents the mature fruit of ideas that WW50 originally gained when doing his Waldorf teacher training over 20 years earlier. In the poems, many facts from science are woven with emotive and personal elements to engage the parable, story nature of a religious text. The Goethean holistic notion of the monist oneness between the inside and the outside is also implied (Von Goethe, 1994).

⁴⁷ Albert Einstein and some poetic licence

[An image of giant exploding nebula is now projected onto the field and the children move to its centre.]

The Birth of Matter

Our Mother's cry was never heard
As the birth of our universe unfurled.
Sweet agony in making way
The material world with which to play.

Passing through the birth canal,
The pressure-bear made energy change.
New substance and new world formed,
An Internal to External life exchange.

The child did grow, transform and multiply
Till elements varied in nature did vie
For their part in material identity.
Now arranged in place for all to see.

The Periodic Table tells the story
Of the life of matter in all its glory.

[They carry straight on with the next series of short poems describing the Periodic Table of elements from top to bottom. As they speak, images indicating the positions on the Periodic Table of the elements being discussed are projected onto the field.]

The Life of Matter: The Periodic Table

Period 1: The top row of the table with the elements of Hydrogen and Helium

I'm on top of the table and what do I see?

The vast expanses of space, the primary polarity.

Hydrogen and Helium, being born at the start,

Both light and tiny but with natures apart.

Great suns and stars are the mighty engine

Driven by the smallest element Hydrogen.

This first born is a tireless campaigner,

Even giving his body to form the remainder.

Helium the perfect would do no work at all

Were Hydrogen not driving this great fiery ball.

Sh-He⁴⁸ takes no companion, not on Earth or at home,

Yet the elements see her up high on her throne.

'Oh, to be like a noble gas' is the call,

And the elements hear it one and all!

⁴⁸ Sh-He is pronounced, she, but the symbol for helium is He, so I have written it to emphasise the perfect nature of helium by making it a union of the two sexes but presented as female.

Periods 2 and 3 with Potassium and Calcium: the first 20 elements

These children of Hydrogen, most varied in type,
Line up in 7s, Helium's children apart,
Continuing their ancestors opposite statement
Of action and drive Vs. perfect containment.

To the left, the metals numbering 7 in all,
Were hidden till electricity's power them stole
From their lover's side, show their introvert face;
Alkali, base's slow binding embrace.

Seven non-metals all different and bright,
Quick acting and ready, stand on the right.
Their sharp acid-making attracts metal mate
To a balancing marriage, a salt crystalline state.

This taking and giving, the blind meeting of needs,
Makes the rocks of our Earth, the soils for our seeds.

The centre of period 2: Carbon

Quietly seated at top centre table,
Sits Carbon, like Hydrogen, who's happily able
To form a non-metal or metal embrace,
And make 10 times more compounds than everyone else!

While the elements tussle in giving and taking,
Carbon insists on a way that makes them
Commit to share, stay in family living,
As the stable basis of all life creating.

Energy and matter are bound here as one
In organic compounds that get light from the sun.
The black carbon-base of these life-giving foods
Can be seen in the winter fire that soothes.

Matt-black dark powder in its service to life
And bright shining diamond giving lovers delight.

The transition elements:

Now life slows down as the elements mature,
And the passion of youth not as marked as before.
These heavy metals, subtle in difference,

Mostly exhibit reactive temperance.

Like adults they're not so easy to classify,
But add qualities needed for life to survive,
From structure and colour to unusual trait,
We may take for granted so don't underrate!

At the top is iron and all of his mates;
Giving tools for our industry and machines for the mine.
At the bottom is gold in her fine royal state;
Making jewellery for our love that won't lose its shine.

Middle-aged life, so dull to the young,
Is enduring and useful with a more inward fun.

The radioactive elements:

Just beyond Lead, himself almost dead,
Lie the elements too heavy to hold their own thread
Of life together and just fall apart,
Releasing an energy to stop your heart.

Their radiant glow as they start to decay

Was a startling find that made great minds play
That matter and energy clearly were paired,
In the famous E equals m times c squared.

What was seen at the birth with the sun shining bright,
Giving life to the plants and Earth chemistry,
Now changes to death in the dim glowing light,
Or explosion of accelerated radioactivity.

Ashes to ashes, dust to dust, right?
No! Energy to matter, matter to life!

[To applause, the children now leave the FoE and WW resumes his life story.]

In 2016 WW52 is now principal at The Waldorf School in Pretoria where his wrestle for wreality is now more focused on dealing with challenges to allow for the smooth running of the school, including addressing developmental, cultural and racial differences. He believes that his wreality is secure enough in dealing with each of these challenges holistically and allows himself a very creative approach, as in the situation that follows.

One day, the teachers report that there is rising tension between the White and Black students in the Grade 7 class. Although apartheid has been gone for over 20 years and these students have never experienced what it was like to live under apartheid, racial tensions are still a part of South African life due mostly to the enormous economic differences between most White and Black families. In his private school, economic differences are not visible along racial lines, but because

racial tensions still exist in South African society and politics, the students are still sensitive to them. WW52 decides to teach the class one week of science lessons on colour to address the problem holistically.

WW52 teaches light and colour to the Grade 7s using experiments and poetry. He sees that they are dealing with a lot of stress, internal mistrust and fear. The children do an experiment where they see how colour emerges at the boundary between black and white when looked at through a triangular prism. The diagram below (Figure 5:15) is shown to the students so that they can see the stark contrast between the black and white.



Figure 5.15: The diagram shown to the students to observe the stark contrast between the black and white.

Each member of the class is then instructed to look at this diagram through the prism. The resultant colour image that they see look something like this (Figure 5:16).



Figure 5.16: The resultant colour image seen by the students when looking through the prism.

After doing this and other experiments, the students copy down and learn the following poem while at their desks until they can all recite it by heart.

More than Black and White

Between light and dark, so some say,
Lie stark boundaries or shades of grey.⁴⁹
But those with science as their friend
Will show the truth when light we bend.
A triangular prism made of glass

⁴⁹ The original line was 'lie the uninspiring 50 shades of grey', but this was changed for school students.

Will show the grey scale as a farce.

Dark into light is our first test.

Red to yellow burst forth at rest.

Then turn around for light to dark

And turquoise to violet now leave their mark.

In nature together these two are placed

When the rainbow full does radiate.⁵⁰

Yes, my friends do not despair

What monochromatic minds declare.

They only see polar extreme,

And overlook that in-between

Our thought and deed the world is full

Of colour-rich feeling ... Beautiful!

After a few days, the class stands as a group in their given positions to dramatically present the poem. As the class gets into the dynamics and mood of the poem they become more courageous and adventurous, working together as a team. They present the poem to the whole school during an assembly and get good feedback from students and teachers. The objective facts of their science observations coupled with the personal attention from the principal link together with the positive acknowledgement by their peers and teachers. This empowers the students to unite

⁵⁰ See the middle section connecting the squares in Figure 5:16.

as a class and the racial tension between the students disappears. WW52 uses this playful approach when addressing the many challenges of running his school, and sees how many problems transform into positivity when addressed using his holistic wreality which includes Marshall Rosenberg's 'non-violent communication' (Rosenberg and Chopra, 2015).

Nine months later, WW53 is teaching Grade 8s various skills in preparation for a survival camp that he will run. He shows them computer-generated visuals of what the night sky will look like when they are on camp. The students draw the constellations of the Southern Cross and Orion's Belt which will be used for night orientation. On the first night of the camp, a 13-year-old girl calls excitedly for WW53. She and her friend have just seen and identified the constellation of Orion and cannot believe that it actually exists. They then excitedly search for the Southern Cross and hug each other with furious joy when they locate it. They now ask WW53 for instructions on how to use the stars to find north. WW53 realises that these students drew the diagrams in class without the notion that what they were learning was real in any sense. He is shocked to think that many students may experience the science content they learn as forever detached from their wreality.

During the camp, the class enjoy many walks in nature, swim in muddy dams, do their business in a toilet that they build themselves, wash themselves in a river, fetch their own drinking water and fuel, cook their own food and endure a fierce thunderstorm. On their last morning, one boy emotionally declares during their goodbye session, 'I feel like I have been a prisoner in my house. I thought that everything in nature wanted to attack me, but nature is more of a home than indoors could ever be.'⁵¹ As we say our goodbyes, it is the shopping-mall kids, the ones who rarely go into nature and who did not want to go on camp, who cry the most. WW53 realises that they do not understand why they are crying. He believes that they are crying because they have never experienced the liberation of being independent

⁵¹ This is my recollection of the concepts of what he said.

and in nature and are scared that nature might not become a fixture in their wreality; scared that they will forget, like WW10, how to fly.

WW53 writes a short novelette called *The World of Is*,⁵² in which he tries to capture many important ideas within his holistic wreality between science and religion. In this book, he incorporates many scientific ideas about evolution, beginning with the big bang, as well as many ideas gained from his personal experiences, various religions and NDEs. In this book, he weaves these thoughts into a story where a family travels through various stages of evolution as a father tries to support his daughter to gain confidence and trust in life. WW53 deliberately includes experiences that are different from what is currently believed by science as they travel through evolution. In the story, the family recognise these differences and discuss them. This book is a creative writing expression of his evolving holistic wreality.

WW53 feels that his wreality has now been tested and sufficiently cross-referenced with data from science, religion and his autoethnography for him to respond meaningfully in most situations. His wrestle is now mostly in integrating new experiences into his wreality on a metaphysical level, and in managing his own ill-disciplined inner life to become more stable and mature.

A few last experiences that reinforce and grow my holistic wreality

WW: Many further events served to inform my evolving wreality, but only a few more will be told as most of the key themes and codes that emerge from them have sufficient related stories.

When I saw and heard my staunch atheist friend in the spirit

My closest friend during our early 1980s years of mechanical engineering study at the University of Cape Town was Francois Hoffman. Francois laughed easily and

⁵² The book is too long to include here, but we must imagine that it was presented in full to the audience as it will be critiqued later. The book is available from the author at philipmirkin@yahoo.com

was always ready for an adventure. Francois had attended an Afrikaans school in one of the most English parts of the country, the southern suburbs of Cape Town, where we grew up.

Now, almost 40 years later, Francois has passed away. He was starting up a university for engineers and the stress literally killed him with a sudden heart attack at the end of 2017. Many people spoke at his memorial service, including one of his friends from school. This friend was standing with a large group of old school friends with many of them in deep distress. This friend had to stop periodically to contain his emotions and yet did not say much of significance, as though he had not known Francois very well at school nor retained contact with him over the years. All very puzzling. Others spoke of Francois' more recent years, so I filled in the gap of the years between school and his later working life with some fun tales of our time at university, in nature and while on surfing and camping trips. Luckily, it enabled a few folk to lighten up and celebrate Francois' life a bit more.

Once I had finished reconnecting with Francois's family and old friends, my wife and I got into the car for our trip back to Pretoria. A few hours later, I was in the passenger seat and taking a rest. As I was drifting off, I called Francois to mind. I deliberately rekindled my deep appreciation and love for him and to wish him well on his way when he suddenly appeared before me. The image was crystal clear in my mind's eye. He looked like the young, fresh-faced student that I had known so well, and he had the bright look on his face of when he had discovered something really interesting and inspiring. Without waiting, he enthusiastically declared, 'Philip, it is exactly as you said it would be.' I replied, our conversation ended, and he disappeared as suddenly as he had come. As I sat there, I tried to think of what I might have previously discussed with Francois about the spiritual world. Although we had had many conversations about many things, I could not recall anything in particular.

Feeling really happy and blessed by Francois' visit and seeing his youthful and enthusiastic face, my mind went back to the sadness of his old school friends. I tried

to send reassuring thoughts to them, to let them know that Francois was happy and well and on another adventure. My imaginative response to this was to recall that this friend had referenced Jesus a lot and that he was possibly sad because he believed that Francois would go to hell. From his Christian perspective, he had good reason to think this.

Over the previous three to five years of his life, Francois had become more and more antagonistic towards religion and religious ideas. On social media he would regularly post thoughts and images that mocked people who believed in God. It got so bad that I blocked his posts. Francois really believed that religion and a belief in God was humanities' biggest problem. This attitude persisted until his death and so I can only imagine that his old school friends were conventional or reborn Christians who now believed that because of his attitude, God would punish Francois with eternal pain and suffering. I now became upset.

Francois was a real person and he lived a real life. They knew him! This was not some abstract idea that life is a game of pass or fail. My heart questions were, 'Why would they not follow the facts? Why would they not try to accompany the reality of the extraordinary human being that was Francois? Why would they decide his fate based on one interpretation of one text?' And then the penny dropped. It was possibly this attitude that had persecuted Francois in his earlier life and that, in his later life, he had tried to fight with his internet posts.

Francois was a scientist through and through. He was a loving and practical man, and a clear and rational thinker. He was never quick to jump to conclusions but immersed himself in the facts and reality as it presented itself to him; immersed to the point that he would be literally deaf to the world, not hearing a word I would say while he was so occupied. Francois would worry a problem until he could tear a solution free from the confusion of data. He was also a gentle, warm-hearted, caring and sensitive man. At university he was very open and tolerant of everything and everyone, but I suspect that towards the end of his life he was feeling more and more hemmed in by those who thought they knew answers without having wrestled

the facts. I know that he was struggling with the bureaucracy of starting his university and that this may have triggered his anger towards those whose spiritual laziness causes them to ignore reality and embrace premade solutions and rules.

My love and compassion for Francois grew as I imagined his great suffering. It seems that he and I shared the same inability to accept the worldviews within which we grew up. Perhaps it was this that drew us together at university without us recognising it. His wreality may have ended up being very different from mine, but we always enjoyed wrestling together.

--oOo--

My mother shares her near-death experience: Story 2

I, WW55, was sitting at the bedside of my mother in hospital. My mother, a faithful Catholic who believes firmly in God, does not believe that only Catholics have access to heaven. She had suffered a severe illness caused by something that she had eaten. I and my siblings, concerned that her illness could kill her, flew her up from Cape Town to Johannesburg so that my doctor brother could manage her care. I sat next to her in hospital in Johannesburg as she told me the following story.

Mother: Last night I was just drifting off. I felt a great bliss and warmth around me and I was surrounded in light. The light was so bright but it didn't hurt my eyes. It felt so good that I did not want to leave. I thought to myself, 'So this is it. Oh, this is so wonderful, Lord. I'm ready.' Then I heard a voice behind me saying, 'Not yet, not yet.' And then I woke up in my body still feeling very weak, but a lot better than before. I still wonder why I was sent back

This story acts as a powerful confirmation of the picture that WW55 has of the Kingdom of God, as it is his mother, the most honest and down-to-earth person that he knows, who has just shared her experience.

---oOo---

WW56 has a close friend, Nigel Ambrose, who, at the age of 86, had a near-death-like experience while talking to about 20 people attending a marriage counselling group. He tells WW56 that he was standing in front of the group and talking to them when he became aware of being in a different world, a world that was filled with light and warmth similar to WW56's experience in 'On the road to my mother'. Nigel explains that he saw a shape like a tunnel in front of him with vibrant colours. While he was in this other world, he knew that his body was still talking because he could feel the vibrations in his head from the speech but could not hear what he was saying, nor could he use his eyes to see. After he sat down, Nigel asked his wife and others if they had noticed anything strange but no one had. It seems that his body had carried on without him in a not dissimilar way that mine had continued walking without my conscious control in 'On the road to my mother'.

WW56 is now sitting at the dining room table with his father in his father's home. The scene starts with WW56 looking happy and lovingly at his father and this look is returned. His father's expression then changes to pain and as he asks WW56 the following questions his expression concentrates his face into a burdened accusatory focus. 'Philip, how many Jewish friends do you have? Philip, do you hate Jews? Philip, I'm very disappointed in you. Philip, do you love Israel?' As these questions are asked, WW56's face ranges from pain to anger at being so mistrusted after answering these questions so many times over the years. Eventually WW56 responds like WW15 and swears graphically at his father.

WW56 flees to his room and he silently, full-heartedly cries out for help. He is bitterly disappointed with himself for being so easily baited and returning to his childish ways. A short while later, he receives a WhatsApp message from his daughter in New Zealand. 'Dad, are you okay? I just woke up with a terrible dream that you were really depressed and in trouble. Are you okay?' His daughter has never sent him such a message either before or after this event. WW56 immediately believes that his daughter has telepathically heard his cry. The strength and comfort her message gives him is indescribable.

WW56 returns to the dining room. We now see his father looking straight into his eyes, saying, 'I'm sorry Philip. I don't know why I attacked you like that. I love you my boy.'

WW56 replies, 'Don't worry, Dad. I love you, and I really appreciate hearing you say this.'

WW56 finds it easy to understand his father as he reminds himself that even though he has tried to work hard over the years to grow a holistic and mature wreality, he has not been able to let go of his own childhood trauma.



Figure 5.17: WW57 and his wife at a traditional Black wedding, wearing matching traditional outfits of married couples.

Two weeks after WW57 attends the traditional ultra-orthodox Jewish wedding of his nephew in the welcoming and love-filled community of WW57's youngest brother in Johannesburg, he is honoured to attend a traditional Black wedding in Springs. The two weddings take place 57 kilometres apart. WW57 and his wife know the Black

couple fairly well, with his wife having worked very closely with the wife-to-be, Nthabisi, when arriving back in South Africa 11 years earlier. Despite this wedding being between two different tribal groups who speak slightly different languages, the wedding happens with agreement about the process of negotiating the Lobola (the dowry) and a goat being slaughtered. One of the marrying couple's family members tells WW57 that each family gets half the goat to create a physical and spiritual-ancestral bond between the families.

Matching traditional clothing is worn by married couples, and Nthabisi makes a matching suit for WW57 and his wife as a gesture of including them in the intimacy of the family communities (see figure 5:17). The marriage is carried out by the elders of both families and a Christian minister from the church where the family are active. The wedding starts in the heat of a sunny day. Once the wedding, feasting and giving of gifts is over, a powerful thunderstorm blesses the wedding with a short but intense downpour, followed by the sun returning to give a full semi-circle rainbow that touches the Earth on both sides in the East, as the evenly spaced crescent moon and Venus follow the setting sun over the horizon in the West. WW57 feels so blessed to experience all the events of both weddings as personally, scientifically, culturally and religiously intimate and meaningful.

[An exhausted WW now sits down on the FoE as the lights and drama of the evening fade away.]

400 Days on Land

[400 Days after he presented his life story, WW is again in the WWA and addresses the audience.]

Life on my land continued as before with many new encounters and experiences, some of which I now wish to share with you.

Even though this land feels like my true home, growing in strength in me is the wish to return to my Jewish, Christian, multiracial but mostly White, South African,

English- and Afrikaans-speaking world. Now that I have found some autoethnographic clarity, I need to go back and help my Growing Self to mature within the world that helped to form me. Like Isis, I feel like I need to keep searching for and reconstructing the dismembered, hidden pieces of my Osiris (Elan, 2012) to build my wreality into something that matures my Growing Self to be able to birth my Spirit Self.⁵³

I discuss the question of rebirth with some members of my German village who have studied the works of Carl Jung. Jung embraces ideas of reincarnation as well as the birth of our inner higher self, all of which encourages me to return and find as many of these missing understandings as I can to construct a more whole wreality (Jung, 2014).

For almost two months after I presented My Life Story, others come to present ideas linked to aspects of what I spoke about. Three individuals from different groups speak of their experiences in communicating with animals and nature spirits. Anna Breytenbach (2015) from the South African village, Marco Pogacnik from the Polish village (Pogacnik, 2012), and Verena Stael von Holstein from my German village (Weirauch, 2004) spend a memorable evening discussing the ways in which they communicate with nature spirits and animals. A type of picture or sign-language is used by them all in their communication, and, although they use their intuition as much as their logic to make sense of what they are receiving, they all trust their insights because they have examined them thoroughly. They remind me that I told stories hinting at this kind of communication when I saw the music dragon, when my daughter in New Zealand heard my cry for help in a dream and when I was contacted by my dead friend Francois.

⁵³ The ancient Egyptian story tells of Osiris who is torn into 14 pieces which are hidden. His sister/wife Isis, then searches the world to put him back together again to bring him back to life. I am using this as a metaphor for my ordinary self, needing to work to manifest something higher and greater than this.

A few weeks later, George Richie, Viktor Frankl and others have come together to discuss the power of forgiveness to heal our minds and bodies. Frankl shares his experiences as a Jew in Nazi concentration camps. He speaks of his time in the camps and how he developed his logotherapy from seeing how people best managed the multitude of challenges faced, and then further how they managed the many challenges after their release (Frankl, 1985). Richie speaks of Wild Bill Cody, a Polish, Jewish lawyer that he met at the end of the Second World War when liberating a Nazi concentration camp as a medic in the US military. Wild Bill had witnessed his family lined up and shot about six years earlier (Ritchie, 1991). As Wild Bill witnessed this murder and was shouting to be killed alongside his family, his experiences as a lawyer where he saw first-hand how hatred and bitterness destroyed the bearer, welled up in him. He decided in the moment where he lost everything in the world that he loved most, to forgive them all. As a result, says Richie, Bill had more compassion and energy than the young Americans, and looked as though he had only just arrived in the camp despite having survived six years under the Nazi starvation conditions.

Frankl also tells us of the backlash and rejection he experienced when he wrote about some of the German concentration camp guards who he experienced as good people, and some of his fellow inmates with whom he was imprisoned who he saw as bad people (Frankl, 1985). Hannah Arendt shares her similar experience of rejection for criticising the trial that was held for Adolf Eichmann in Jerusalem, where she described the populist need for justice for Holocaust atrocities being presented as though Eichmann was guilty of them all (Arendt, 2006).

This conversation takes place in the light of how Wreality Wrestler's decision as WW22 to go to the army being prepared to die may have led to some of the positive aspects of his time in the army of apartheid. The speakers highlight the dangerous tendency of people to only see things as right and wrong, black and white. This gets them talking about Wreality Wrestler's openness to engage with people from different backgrounds and his poem titled 'More than Black and White', which they appreciate as presenting a bridge between potentially polarised perspectives.

The people of this land do not have insurance and they do not have any machines to keep them alive if they are dying. The great leaders in these communities present the clear idea that life is for learning and for developing the courage to learn from reality even if it leads to death. They live with the acceptance that life is hard, and that this acceptance itself enables them to embrace life with less fear and suffering (Peck, 2002:1). The speakers draw on the stories of Wreality Wrestler in the army, with the Māori and Pacific Island rugby players and others, as examples of the miraculous power of this acceptance. Wreality Wrestler learns that the preparedness to suffer seems to present a key to bringing people to act out of their conscience and that it is this that prevents needless suffering. He learns that in this land, all the people believe in reincarnation and hold the idea that death is not the end of growth and evolution. This does not make them passively resign themselves to fate. It enables them to overcome their fear of evil and death while retaining the strength and sense of responsibility to do all that is needed to engage with reality. It also helps to reinforce their trust in the limitless love, justice and meaningfulness of life.

Stories of the great leaders of humanity are then explored, showing how this preparedness to always look for the good and to endure great suffering disempowers the most dehumanising forces. Here the non-violent resistance of Gandhi (in order to enable the fairly peaceful independence of India) and the human presence of Mandela (which enabled a peaceful change of government in South Africa) stand as powerful recent examples of what, perhaps, began with King David (when he defeated Goliath), Socrates (at his trial where he chooses death over untruth) (Plato, 360 BCE), Buddha (in his choice to leave his palatial life to find a solution to human suffering) (Buddhacoe, 2011) and the Christ (who was murdered for prioritising the development of the inner life over outer social, cultural and belief norms).

Farewell vision

As the final evening draws to a close, a vision representing the fruits of Wreality Wrestler's wrestle for a holistic wreality descends upon the quietened souls in the Wreality Wrestling Arena.

A rich and fertile soil into which the human beings of the Earth are planted as seeds appears before them. This soil is partitioned with each part containing a share of the gifts and nutrition of the various cultures, religions, professions, arts, sciences, technologies, nationalities and races as well as the gifts of nature in all her substantial and environmental splendour. They see how initially the many human seeds remain mostly passive and simply absorb the goodness of the soil that surrounds them. After some time, many seeds actively send out roots in various directions to absorb more nutrients from where they are planted and consciously develop the given gifts as they reincarnate from one life to the next. During each life, the humans adopt the identities that surround them, and, to a greater or lesser extent, grow the new skills and abilities that are offered. After many incarnations some of these seeds begin to liberate themselves from their desires, fears and attachments to their specific ethnographic soil-world and reach out their roots to draw nutrients from as rich a source as they can access. Soon the audience sees that some humans, as they embark on their journey of liberation with openness and compassion, begin to break the surface of the earth for moments and see into the world above. In these moments of seeing, it becomes clear that there has always been a world above the soil, a world which is perpetually pouring and radiating goodness into the Earth.

The world above is blindingly bright yet does not hurt the seeing eyes of the awakened seedlings. The warmth is incineratingly hot but only serves to cleanse them right through. They experience how the atmosphere above the soil is filled with this all-embracing love and purity, and how there are Beings who live in this environment and who feed the soil and nurture each part of the soil and each human seed. As these human seedlings pop their heads above the ground, the nurturing

Beings gather around to witness the birth. Some of these reborn humans experience themselves as flame and see the nurturing beings as flames. Others hear voices; while still others see the Nurturers as human-like; but to almost all, the experience of this extraordinary light and warmth brings comfort, bliss and a new understanding. It usually changes their lives in some profound way. They are no longer believers, they become knowers.

As the audience watches this drama, they see how the Nurturers from the world above work tirelessly to keep the soil enriched despite the toxins that some opposing beings release into the soil. They see that this world above is approaching the human seeds ever more closely, and how this very closeness spreads both hope and fear into the seeds. Many of these germinated seeds feel the presence of the world above and have sufficient trust to release themselves into the world of love and health-filled warmth and light. These saplings, like the great leaders of humanity, draw the vitalising forces of the world above down into the Earth, enriching the soil.

Looking down into the soil, the audience sees that some human seeds resist the change. These include those who, through their attachments and fears, are simply not yet ready to spread their roots as well as some who have invested themselves with power, status and wealth within the soil.

After some time of activity both above and within the soil, the audience sees how the Nurturers are encouraging the mixing up of the elements within the soil and that this makes the not-yet-ready and resisting seeds very uncomfortable as they struggle to keep their sense of meaning fixed upon the soil around them. This is very upsetting for the audience to witness as a great survival anxiety arises in these seeds. They cling for comfort to older and non-nutritive elements because they perceive that the new is not yet established and they cannot trust it. More heart-breaking still, the audience also sees how these anxious seeds avoid the areas of Earth that are becoming infused with the purified light from the liberated saplings who can now move with growing freedom above and within the soil.

Watching the free play of the awakened saplings, the audience sees and hears the wisdom, artworks, music and poetry that they bring into the science, religion, education and life within the soil.

As the vision begins to fade, the audience realises that not all seeds will choose to break the surface and begin a new life as young plants. This saddens them but serves to strengthen their resolve to become like the awakened saplings and begin a new life as partners in the Great Work of human and Earth transformation. Eventually the vision has passed and the audience look into each other and see the burning flame that resides patiently within.

Warmly, they rise and go home, feeling closer to each other, each wishing for their neighbour to be born again and bring the purifying gifts of above into their soil.

In the next few days, many heartfelt farewells are spoken. WW sets sail with other pilgrims back to the land where the outer-life, the life often deep under the soil, potentially holds an imprisoning or intoxicating effect over its seeds and where other wrestlers for wreality may be needing encouragement.

Chapter 6

Data analysis and findings

Introduction

This chapter explores the co-constructed data of Chapter 5 in several different ways, bringing the data into relevant conversation with the literature. The first three sections analyse the data to gain particular types of findings.

Section 1 begins within the Wreality Wrestling Arena Commentary Box where the co-constructed data and creative writings presented in Chapter 5 are analysed. The Host questions Wreality Wrestler using self-interview questions to demonstrate reflexivity while also achieving some measure of verisimilitude from expert witnesses and data co-constructors. Open questions are initially used to allow unexpected insights and findings to arise. Follow-up questions are then used to dig more deeply to identify specific findings within the data, but without trying to lead the conversation towards any specific theme within this thesis. The type of findings that emerge from this section are, therefore, fragmented and only partially ordered within the sub-headings of 200 Days at Sea, My Life Story, and 400 Days on Land. The findings from this section are then used as the ground for further analysis in the sections that follow.

Section 2 draws on some of the findings of Section 1 to assist in tracing the progress of my autoethnography using the Concept Map of Autoethnography developed in Chapter 4. This section is used to test the practical usefulness of the Concept Map as well as to use the map to explore and identify the nature of my autoethnography.

Section 3 distils the findings of Sections 1 and 2 into themes or codes that were generated within this study, as expected from grounded theory research. These codes are then used in Section 4 to address the research questions of this study. Section 4 concludes this analysis chapter.

Section 1: Initial analysis of the co-constructed and creative writing data

Analysis of 'Dramatised metaphor of my relationship to science, religion and education to declare my focus and bias'

Host: You gave us a metaphorical preamble to 200 Days at Sea. What was that about?

WW: That is a metaphor, parable or image that contextualises how I see those who follow the materialism of science (Comte, 1976; Coyne, 2018) or religious dogma (Gregg, 2003) without earnestly questioning or cross-referencing them. The first part is the parable and second part is the partial explanation of it. It also places what I perceive as the healthy attitude to a wrestle for wreality with its final sentence. When I first heard the quoted line of Neil Young's song of 'when the aimless blade of science slashed the pearly gates,' I was still in my state of having lost faith in all of life (Young, 1979). The words rang true for me in representing science as having the power to defeat the unchallenged romantic notions of religion and in showing the aimless direction of our scientific pursuit and its impotence to address my existential crisis.

I wanted to present my personal perspective on the key themes of this study up-front, so that the audience could experience how I see science, education and religion from the start.

Analysis of 200 Days at Sea

Host: Thank you. I think you made your positioning very clear. Can you now help us to understand what your 200 Days at Sea says for you. You presented an image of being at sea and looking for a special land. Tell us about this journey and what you were looking for.

WW: The journey at sea was a creative response to reading through the broad literature related to the themes of my autoethnography. I was looking for a metaphorical way to describe my initial experience of starting this research. The literature that I was reading often revealed much with which I could identify, such as

analytical, evocative and critical autoethnographies (Denzin, 2006; Elbelazi and Alharbi, 2019), some history (Harari and Perkins, 2014), psychology (Fromm, 2013), philosophy (Plato, 360 BCE), indigeneity (Khupe, 2014), nature spirits (Crombie, 2018), education (Daugherty, 2013), religion (Holy Bible, 1611; Qur'an, 2013), science (Dyson, 2007; Willis, 2010) and more. On many occasions, I felt like I had found a place from which I could begin my study just to realise that it would not be able to fully represent me or what I wished to present. It was not until I found a way to connect the holisms of Smuts (1926) and Goethe (2009) that I had a theoretical framework, ontology, epistemology and paradigm that made sense to me. The land where I eventually arrive is a metaphorical representation of my ideal ethnographic world, where I would be able to live with the same intimacy that I feel in nature.

Host: Your stories seem to show that you have had personal experiences of intimacy with people from many different cultures over the years. Would many aspects of the cultures that you encountered now be elements which you embrace in your created land?

WW: Yes. My created land has shown me that my ideal ethnographic world is not limited to one culture, place or time, but that my life has been immeasurably enriched by kindred souls from different nations, times of history, races, sex, age-groups and religions. Please note that my created ideal land does not include all members of any single group but is an individual-based one. Perhaps these people form a homogenous grouping of some kind but it does not have a name that I am aware of other than perhaps something like, holistic wreality wrestlers, or those who trust that there is a life outside Plato's cave (Oyebode, 2011).

Host: What does this say about your relationship to your inherited identity? You chose Germany to place yourself. Being Jewish, isn't this potentially traitorous?

WW: Not at all. The Germany of which I write was possibly the most open to Jews of any country at any point in history. Think of the many German Jews who are founders of or leaders in their field, like Albert Einstein, Sigmund Freud, Viktor

Frankl, Erich Fromm, Karl Marx, Hannah Arendt, the composers Gustav Mahler and Hans Zimmer, and more. Many of them are part-Jewish, meaning that the Jewish community must have been well-accepted and integrated into German society. Furthermore, this Germany produced some extraordinary philosophers and thinkers, not least among them being Goethe (1994) and Steiner (1999), both of whom have had a great influence on my life and my wrestle for wreality through science, education and religion.

I don't feel like a traitor. I understand that many people do not want a closer look at historically painful events from the past, and then attack people like Arendt, Frankl and Zille who try to find positives from within such painful events (Arendt, 2006; Frankl, 1985; White, 2019). Many friends and family from my English-speaking, southern suburbs of Cape Town and Jewish worlds would be potentially hurt in not being the centre of my ideal world since their influence has gifted me with so much, including my clear thinking and broad exposure to ideas. Unfortunately, my own ethnographic world was not a natural fit for all that was welling up in me, so I needed to create my land as an environment that seemed to fit me best. The experiences that I related in My Life Story with people from other cultures, religions, nationalities, positions of power and so on, taught me specific things that I needed to know. I don't believe that any current cultural or ethnographic environment would have suited my needs, and so the variety presented in 200 Days at Sea reflects my appreciation of these broadly sourced gifts.

Host: You present yourself during the ritual gathering in the Great Festival as changing shape and being atom and criminal and bull and so on. Please help us to understand what you were trying to show with this.

WW: Evolution has moved the universe through many stages of development and we humans can only exist because matter, sun, earth, plants and animals came before us (Smuts, 1926). We are truly a microcosm that has been given birth out of the macrocosmic universe. Also, in the Bible, Jesus refers to himself as the Son of man (Matthew 26:64, Luke 22:69), as one who has been born out of humanity. The

drama of taking on these different forms is an acknowledgment of our multidimensional identities as a microcosm of the macrocosm. On the other hand, through our mental efforts with science, religion and education, I hold that we owe our spiritual nature to the spiritual world of being and consciousness. In this way, we are God's children and so the Goethean picture of the holiness of embracing the outer and inner as a monist oneness is what leads to the great question of 'Who am I?' (Von Goethe, 1994). The question of 'What is a human being?' was pivotal in my own wrestle for wreality since around the age of 19, so it felt important to be included in the Great Festival.

The final act of the drama represents the finding of my sense of authentic self. Having lost the illusion of identifying too strongly with any particular element of my small life represented by the great vision, particularly with any aspects of science and religion that I have seen manifest in the world, a new ground for identity was gained which I believe is more in harmony with my wreality at the start of this study. This microcosmic integration of the macrocosmic allness includes the future potential for human development as represented by the Christ and his words of, 'I am'.

Host: Thank you. I'd like to ask a few questions about more general impressions if I may?

[WW nods his approval.]

Host: Your 200 Days at Sea is very emotive, especially the part in the Great Hall. Why have you used so much emotive language?

WW: I wrote the ritual enacted in the Great Hall after a morning dream that I had less than one week after writing about the journey to my land and its initial description. The dream was a powerful, emotional one for me, and, in the metaphorical Great Hall, I was trying to capture the power of the dream's details and feelings.

Host: This ritual does not seem to follow any current religious practice. Further, it seems like there is no regular religious practice in your land. There is also a lack of technology. You have mentioned your relationship to unchallenged science and current religious practices, but do you not like our current technology either?

WW: [Laughs] No, I like it and use it a lot. To me, technology is what we use to extend our power and ability into the world, however, our use of technology often separates and protects us from meeting the world directly. Removing a lot of current technology makes my life on the land feel more emotional and impactful because everything has consequences, as expressed in the Wordsworth poem that was quoted (Emerson, 1836; Wordsworth and Rogers, 1980). This reflects my deep love and trust of nature, the way I was wanting to experience my autoethnography, and the way I experience being a science teacher. Fortunately I had kept some of my previous student's comments where they reflected that I had indeed managed to bring this experience of personal significance to some students in the past (Mirkin, 2021).

Host: Thank you. One last question on this section. When you were in the Great Hall and even when you were meeting the various groups in your land, you mention that you recognised almost none of the women who you believe have been world leaders. Why do you think this is so?

WW: Great question. There is no doubt that the leading figures in my wrestle for wreality has been drawn almost exclusively from not just men like Jesus Christ (Holy Bible, 1611), but the dead White men of Plato, Smuts, Steiner and Goethe (Plato, 360 BCE; Smuts, 1926; Steiner, 2000; Von Goethe, 1994). I thought about that as I was writing. Even in My Life Story I noticed that the women in my life received relatively very little mention, even my sister who is my closest sibling, and my wife who is my closest friend! This was also a surprise because many of my favourite novelists are women, with Charlotte Bronte being my favourite. I also cast a girl as the main character in my short book called *The World of Is*, and I have had many close women friends so I certainly do value their role in my life. I suppose my

experiences with women have been more personal and had less to do with my wrestle for the aspects of wreality related to science, religion and education. It may also have something to do with the voice of men being disproportionately available from the past in science and religion. It is not something I thought about before co-constructing my data. It also made me more aware of the sex of the academic authors I referenced and was pleased to see that I have referenced many women.

What is highly significant for me is the role that some women who are close to me have played in bringing about deep personal experiences. The young woman who awoke a deep compassion in me “On the road to my mother”, enabled me to experience myself as a tongue of flame. My sister played a significant role in supporting me through my UCT SRC campaign and my wife’s music which inspired me to experience the ‘Music dragon” are examples of this. Perhaps my recognition of the significance of the role of women is more on this powerful and personal level.

Analysis of My Life Story

Host: While listening to your life story, it occurred to me that although there is a lot of overlap, you have indicated distinct phases in your wrestle for wreality. Initially, your wrestle seemed like a struggle to understand your ethnographic world. From the age of about 19, when you found ideas to help you form a firm foundation to your wreality, you seem to have been led into having some interesting and powerful spiritual experiences which gave you further solid ground for your wreality. Your wrestle then seems to have eventually led to you writing science and educational poetry to express this wreality. Does this summary sound correct to you?

WW: Yes, a little oversimplified but correct.

Host: I ask this because I would like us to hold this idea as a backdrop as I ask you to now reflect on your life story using distinct themes or phases. Is that okay?

WW: Sure. That not holistic but go ahead.

General reflections on experiences that influenced my wrestle for wreality

Host: Thank you. How are you feeling having just finished retelling your story?

WW: I am quite emotional. The depth of my love and pain, wisdom and stupidity as well as my comfort with nature and ignorance among people is all a bit overwhelming to revisit in just a few sessions. But my gratitude for having had so many rich and enriching experiences is the most dominant feeling for me.

I was really interested to experience some of my strongest emotions in unexpected places, like when telling the story of my parents. I lived into the tensions of what I imagined they might have experienced as they told me their experiences. It helped me to love them with a bit more understanding. It was painful for both parents to revisit certain challenging times in their lives, but after each session they were truly grateful for the opportunity and for the closeness that they felt then, and still feel today. Even though my focus is on my wrestle for wreality as a science teacher, this parent-data helped me to see a fundamental tension in myself that feels relevant to my wrestle for a holistic wreality.

Reliving the confused, disconnected young me was also really sad (Mirkin, 2021). The younger me was utterly at sea many times, not able to make sense of the world where I found myself, and so became cynical and did many stupid and destructive things as a result. Yet, these exact feelings make me really glad that my wrestled wreality enables me to feel a new love and peace towards these experiences as well as many more which I have left out.

Host: You have presented many stories of encounters with people of different races, age, nationality and religion. I'm thinking of Willie your Coloured co-worker in the council, the Israeli Arabs who ran the backpackers, the South African Black domestic workers who were on the train church service, the large Afrikaners who tried to intimidate you in the army, the German in Israel and the Greek bartender on your trip back to South Africa and so on. These stories all seem to be telling us

about your relationship to people from backgrounds different to your own, but what do they tell us about your wrestle for a holistic wreality?

WW: Our own racial, national and religious ethnicity as well as our positions of status and power or powerlessness give us experiences and identities that are very real to us. Each of these encounters showed me what the literature also shows, that we each see ourselves and the world differently because of our social and ethnographic realities (Freire, 2000; Vygotsky et al., 1994). Of all these experiences, Willie stands out because of his hardworking, grateful and forgiving attitude which enabled him to free himself from challenges that I could not begin to imagine, and to create a life of meaning with a family that he loved. All current religions promote this kind of hard work, gratitude and forgiveness, but the most powerful modern philosophy that I found to express this is the Black folk religion of Ruby Sales (2019).

These encounters with people from so many different backgrounds show me how our Growing Self or personality has the freedom of choice to identify exclusively with its ethnographic background or to open itself to the worlds of others. This aspect is expressed in, *400 Days on Land*, as the sending out of roots to draw nutrients from soil that is beyond the seed's specific ground, from beyond the world in which one is raised. Wrestling with my autoethnographic world has enabled me to find some underlying meaning and evolutionary purpose for both myself and my ethnographic world.

Host: Is this why you have presented many religious encounters as cultural encounters, as though they show us something about the ethnographic landscape? If so, how do you see what you call religion acting out in the world?

WW: I have prayed with equal comfort and conviction in temples, churches, mosques and synagogues of different types. In each of these, the dress code, rituals and words are different, yet there can be bigger differences between two kinds of synagogue than between one synagogue and a church, temple or mosque. The way in which people gather and pray are cultural manifestations of religion, yet they

are very important in forming the experience of the believer. Where I have found my home within religion is in the striving of the human spirit during prayer and religious practice. Look into the human heart and mind in these religious-cultural practices and you will find what I call religion. The rest I see as culture. Holistically, the inner human experience and the outer cultural elements of religion are obviously connected and feedback into each other.

It is usually the cultural elements that lead people to a sense of identity and belonging, but, when taken as an exclusive path, can also lead to a sense of separateness from people who are different. In a certain way, I see these cultural aspects of religion in the same light as many indigenous practices, where an exposure to science can make these practices feel meaningless (Kimmerer, 2013; Young, 1979). A major impulse behind me doing my autoethnography is to map my journey to a religious or indigenous life of intimacy which includes the fruits of science.

Host: Tell us more about your specific culture.

WW: Growing up, I always saw culture as holding people back and not as a progressive force. I saw it as a cause of conflict and differences between people, even within my own family. Having done this study, I can see just how much I have gained exactly because of my background (Bickford-Smith et al., 1999) and my encounters with other cultures. I now see culture as the nutrient soil from which we develop every possibility for life. I could only come to this impression because I feel liberated enough from attachment or rejection to begin developing a compassion and gratitude for it (Thorp, 2017).

There is no doubt that I experienced enormous pressure to conform to the norms of the world in which I grew up. Despite my youthful rejection of most of these norms, I had also adopted many of them, such as my science prejudice against religion, privilege prejudice against becoming a teacher, and Jewish prejudice against Christianity. Blessedly, the diversity of my life experiences helped me to see many

hegemonic situations from within as well as without, and so I never fully identified with any single position. I knew what it was like to be rich and poor, oppressor and oppressed, and I think this has taught me that chasing money or power would not allow me to create or manifest my current wreality.

There is no doubt that being White, English and well-educated has brought enormous privilege to my life (Bickford-Smith et al., 1999). Had I been Black, Xhosa and rurally educated, my life would have been totally different, but, as Nelson Mandela demonstrates, that would not make it less meaningful. Some wrealities demand to change the outer conditions of life while others, like mine, just because the outer opportunities were so abundant, seem to have made me turn predominantly inwards to wrestle with beliefs and motivations. If we trust Goethean holism (Von Goethe, 1994) then we can see that inner and outer circumstances are just opposite sides of the same coin and we have to address the side that challenges us in life. Because the inside and outside are intimately connected, a change in the one will hopefully lead to a change in the other.

Host: As a holist, is this not one-sided? Do you see something wrong with focusing on changing the outer circumstances of life? If so, what would you say to those who hold with critical theory (Bohman, 2005) which holds that the power dynamics of slavery and apartheid should be redressed to give improved opportunities to those from whom such opportunities were deliberately withheld so that the privilege that you enjoy becomes more available to all?

WW: You are correct in saying that my approach is one-sided in focusing on changing my inner understanding as opposed to outer circumstances, but the opposite can also be true. When we look at the world only from outwardly observable evidence, it can look like the privileged really have it all, as is often argued from a social, political and economic perspective (Freire, 2000; Scott, 1998). When we look at human reality holistically, we then need to balance the outer phenomena with the inner wreality (Von Goethe, 1994). From my experience, the things that occupy many rich folks' minds on a daily basis are often superficial and

barren when referenced against a religious background. The meaninglessness that I saw in many lives of those with privilege, including some with extreme privilege, taught me that money does not buy happiness, but can rather distract us with 'getting and spending' (Wordsworth and Rogers, 1980) instead of experiences of genuine intimacy with our world. Money, power and opportunity certainly make life easy in many ways. I experience privilege on a daily basis in my empowerment to earn a living in several different meaningful ways, my freedom to live overseas, the accommodating way that people generally treat me, and so on. Yet, I would not wish on my worst enemy the complete inner emptiness and despair that I experienced during my time of self-medication with marijuana as a 19-year-old. To believe in nothing is devastating, and to then not even have little daily battles to fight means that nothing is challenging you or giving you new information to help. Several close friends from my childhood with a similar background to me did not survive into a healthy adulthood partly because of this privilege. I believe that money, status and power are no cure for life's challenges.

What would I say to someone who sees the world as a power struggle between the privileged and oppressed? I'd say, keep your focus on what is real for you. The struggle to bring our deep inner wreality into a world that is often in conflict with it, is what I believe we all struggle with. This is where I believe the struggle of current humanity lies. If we focus on this struggle, then I believe we will build our wreality on solid ground. There will always be those who will hate you and block you in your efforts just because of what you represent. If you focus on such people, I believe, you will become like them and find only anger and conflict (Luke 6:26-36). By focusing on your wreality you will hopefully find healing and light for yourself and the world, like the Black women on my church-service train journey to work (Sales, 2019). I'm convinced that although their lives are often a great struggle for survival, their inner lives are richer and more filled with meaning and joy than many of the White folk that I have dealt with.

My answer to your question is thus to say that outer power structures are very real and need to be addressed, but my way to address them is through the inner power

structures of our own wreality. When we have the strength and courage to live our lives with a truly liberated mindset, others recognise this and the outer world changes (Holy Bible, 1611). I have experienced this in several places in My Life Story. I see this in the lives of Epictetus (Dobbin, 2007), the famous Roman slave, Nelson Mandela (Hallengren, 2001) and others. Paulo Freire in his *Pedagogy of the Oppressed*, although focusing on outer change, also recognises and emphasises this inner work as the starting point (Freire, 2000). In short, my wreality tells me that, ‘the pen is mightier than the sword’ (Lytton, 1839) and that ideas should be primary as they have the power to overcome violence and unjust power structures.

Host: Can you see any themes or patterns that have emerged for you in your relationship to culture, including the cultural elements of religion?

WW: Both my parents suffered greatly as young folk because of their different identities. In my father’s case, it was probably even inter-generational trauma. The community that his parents came from in Lithuania had been one of the great centres of Jewish culture and learning in the world (Domnitch, 2015). Its destruction was devastating to world Jewry and its final annihilation during the Second World War led to my paternal grandparents losing close family members in the Nazi invasion (Greenbaum, 1995). The survival instincts and fears that such events triggered still live strongly in me and I suspect that they cause most Jews to hold strongly to their Jewish ethnic identity. Intertwined with this is my obvious openness and exposure to other religions and cultures.

An enormously pleasing change that I found by looking at my story as a whole, is my evolution from fear and confusion to trust and confidence. As a child, I was a Jew living in a Christian world, unaware of my own Christian baptism.⁵⁴ This tension was given to me by my parents. Moving from confusion to courage includes the idea that our parents’ hand over challenges to us because they could not resolve them themselves. It is as though evolution needs these things resolved and if one

⁵⁴ My mother only told me about the baptism a few years prior to doing this study.

generation can't solve them, it hands them to the next. Such thinking helps me to be more compassionate towards my parents but also towards myself as a parent. Understanding evolution as a cultural phenomenon in this way is a theme of enormous proportion for me.

Host: Let us hear now from our Wreality Wrestler's mother and father about their reflections on what we heard about life before Wreality Wrestler was born and in his early childhood. Mother, would you please tell us what that was like to see yourself through the eyes of our Wreality Wrestler?

Mother: [*Speaking with a thin Spanish accent*] It's not easy for me to see some of this. Many of these memories are from very painful times in my life including when I was very young in the Spanish Civil War (Buckley and Preston, 2013). What is interesting is how, by the end, everything seems to make sense, and how after all it wasn't so bad, was it? I mean we all turned out alright, didn't we? [*She smiles appealingly*]

Host: Do you remember the events in the way that they have been portrayed?

Mother: I have spoken to Philip on a few occasions about the things that happened before he was born and it is an artistically accurate reflection of what took place. I am very grateful for having been able to revisit these memories.

Host: Thank you. And you father? Would you agree that this is an accurate reflection of events?

Father: I don't like to think about things. Things just are what they are and if you don't look out for yourself then who will? Who can you trust who is not family? My son is a dreamer and always has been. He is a lovely boy and people have always liked him because he likes them. He would make friends with a frog if he could. He actually made friends with snakes as a child! [*Laughs*] This makes him nice to have around but he needs a push every now and then. But I am really sorry about pushing

him to study engineering. I have apologised to him many times for making him waste those two years of his life.

Yes, all he says is correct, but only from his point of view. For example, he left out that my parents raised us in a loving and caring home in Adelaide. He is such a dreamer and he thinks everyone is his friend so he does not worry about money or family. Does he think these strangers will look after him if he needs help? I can't understand how he thinks and still worry about him.

Host: Thank you, parents. In the light of the pre-birth data that we heard in Wreality Wrestler's story, we have invited Gretchen van Steenwyk (Van Steenwyk, Roszkowski, Manuella, Franklin and Mansuy, 2018) and Johannes Bohacek (Bohacek, Engmann, Germain, Schelbert and Mansuy, 2018) to talk with us about the effects of trauma being passed from one generation to the next through epigenetics. In the not so distant past, the evolutionary ideas of Lamarck that the behaviour and habits of one generation are passed down to the next in some form of inheritance were ridiculed and dismissed. Your work with epigenetics now seems to show that Lamarck may have been right in some way. Please tell us about Wreality Wrestler's parents' developmental trauma and whether this could have been inherited in some form by Wreality Wrestler.

Bohacek: Epigenetics has to do with how environmental influences affect the way that the genes are expressed; whether they get switched on or not. The influences of his parents' life events could have affected their own epigenetics but it's not clear whether this would have affected Wreality Wrestler's genetic switches (Bohacek et al., 2018).

Van Steenwyk: Not much research has been done with humans passing on metabolic and behavioural traits from one generation to the next because this is such a new field, but mice have a very short life span by comparison and we have direct evidence of such traits being passed on through four generations, mostly through the paternal line (Van Steenwyk et al., 2018). Humans, being so much more

complex, are obviously going to give very different results so it is hard to say in this case whether it is possible that his parents would have inherited certain behavioural traits from their parents, as in the case of Wreality Wrestler's father, but it is not unlikely. This is also because Wreality Wrestler's paternal grandfather and father were so young when they suffered their trauma. Epigenetic research shows that this is the most likely time to create inheritable traits.

Host: Thank you for that.

Host: We now have Ruby Sales, a civil rights legend from the United States, to shed some light on what we have just heard of Wreality Wrestler's stories on the train church service and his interactions with the Black teacher at the Waldorf school in Constantia. Ruby, welcome. You gave an interview recently where you spoke about 'Black folk religion' in America (USA) (Sales, 2019), and were saying to me during the performance that some of Wreality Wrestler's experiences seem to have a similar feel to what you call Black folk religion. Tell us about this please.

Ruby Sales: Yes, when Wreality Wrestler was talking about the train church service with workers who were on their way to serve their White masters, I felt real parallels with the Black slaves on the plantations in the American south where I grew up (Sales, 2018). In America we had a situation where Black folk religion developed as a way for slaves to supersede the power of their White masters by obeying a more powerful master, our true master, God. The slaves had to physically obey their White masters but bought their inner freedom by choosing to serve the God of Love. Songs with words like 'I have love in my heart' became the source of resistance against the hatred and abuse where we could say, you do everything in your power to make me want to hate you, but I will have love in my heart. So Black folk religion became a theology of resistance that could heal the pain of Black people AND the relationship between Black and White people (Sales, 2019).

The superiority of love in Black folk religion will always triumph. I believe it saved America from a civil war bloodbath, and the South African version probably saved South Africa from the same fate.

I don't know if Wreality Wrestler was racist before his train rides, but what I feel from his life story is that he finds an ideal, a story, that moves him to recognise a wisdom in this part of Black culture that nourishes him. Something that he says he looked forward to on his way to work. And so, when the Xhosa teacher told him that God really loves him, he could really believe her. I wonder whether he would have believed what she said if he had not had such a deep exposure to the church services on the train.

In the present there are White folk who believe the superiority notions implied in Whiteness. In listening to Wreality Wrestler's stories, I felt that his use of racial terminology was descriptive and not tainted with notions of power or superiority. Yet, the superiority notions of Whiteness makes it hard for Whites who do not live up to being superior to find acceptance in their community or to accept themselves (Sales, 2018). They need stories, a universal theology if you like, to help heal those White people who fall short, those who cannot keep their lives together and become bums or crack addicts or whatever. Somehow White society does not have stories like we have in Black folk religion to give these White folk hope and an ideal to strengthen them when they fall. I wonder what Wreality Wrestler's experience would have been like if there were poor White folk in those train and taxi rides?

Host: Thank you, Ruby. That is a real insight; that we will need an ongoing evolution of songs and stories to express a more universal theology that speaks to the hearts of those living with pain ... wow!

WW: My meetings with people of different races, religions, ages and gender have allowed me to see the genius within Black folk religion (Sales, 2019). I see this kind of love as a portal that makes our consciousness more universal. By keeping love in our hearts, we keep our compassionate attention on others, and my stories seem

to indicate that this has been a primary source of many of my deepest experiences. I hold that the spirit within Black folk religion lives in all of what I call religion.

My experience is that most races and cultures in South Africa are very religious. I have found them to have love in their hearts, and so it has been easy for me to connect with them. It is predominantly my southern suburbs English world that seemed to have love in their head, through its liberal, science-based open-mindedness. I feel blessed to have experienced both of these sources of love and hold that we need both aspects to be liberated human beings. A big part of why I write science poetry is to make it more human for myself, but it is also because science is a most objective base for sharing values which can lift our hearts and minds to a love-filled understanding.

Host: There has recently been quite a lot of research into mirror neuron activity which enables our nervous system to imitate that of others, enabling us to develop a connection, understanding and intimacy with them (Cook et al., 2014; Heyes, 2010; Keysers, 2009; Marshall, 2014; Miller, 2008). Would you say that you have had a sense of this in your experiences with your own and different cultures?

WW: Absolutely. I have always been amazed at how little effort it takes to experience the wreality of someone else who is so different from me when I open myself up to them. It is like magic as I begin to live into their stories and experiences. It is better than a song or a movie to feel the world through the mind of another person. I think that mirror neuron behaviour has helped me to work closely with my students as a science teacher. Understanding some of their uncomfortable experiences with the work has been a great source of motivation to use poetry and other writings to enrich the science classroom and make it more open to them.

Host: Tell us about when you ran for the student SRC. Looking at your leaflet, it seems very abstract and naive (Mirkin, 2021). It is impossible to know what you planned to do if you were elected from looking at the leaflet. Can you explain this?

WW: [*Laughs*] No. I suppose not, other than using the excuse that I did not have any time to plan. It is interesting to see that I used poetry with metaphor and rhyme and a sketch drawing to convey my message. My leaflet does show a lot about my wreality of that time. Now, 35-odd years later I am wanting to make science more humanly approachable using the same tools, although I can see why I did not continue using sketch diagrams ... [*laughs*]

Host: We now have the sister of our Wreality Wrestler. You were there during his campaign. Is this how you remembered the events of the time? What did you think were the reasons why WW21 ran for SRC and what did his campaign actually say?

Sister: My brother can be very practical. If he wants to install a solar panel, he does it. But on the other hand he is a total idealist and dreamer. I don't remember many details of the time and I don't remember him ever being politicised or politically active. He did have friends across the political spectrum, but I don't remember him as an activist of any kind. Quite the opposite, he seemed to avoid it. His pamphlet seems to represent him well as an apolitical idealist. I think that he was caught up in a passionate and romantic moment and I remember feeling excited and proud of him.

Host: Thank you, Sister, for giving us your picture of his wreality of that time. Wreality Wrestler, when you were receiving your lecture on using the compass in the army, why were you surprised that it was an Afrikaner who continued asking the questions when you were too scared to do so?

WW: It was early days in the army but I had already realised that there you did not ask questions; you just did as you were told. I had assumed from the looks that I always got from the other guys that it was an Afrikaner thing; something about how they were taught at school and university. This impression was reinforced many times at later stages during my time in the army, although Afrikaner graduates from the Universities of Stellenbosch and Port Elizabeth seemed more likely to ask questions than those from other universities. And not all English university

graduates were keen to ask questions either. It was mostly just students from the University of Cape Town and the University of the Witwatersrand, but there were so few English-speaking guys that it seemed like we all did.

Also, I think it was the only time in my life where the lecturer or teacher changed a significant aspect of what was being taught because it was questioned. In my teaching career, I have usually seen teachers simply justifying their mistakes and carrying on regardless, but here, in what I considered to be a most unlikely place, the officers actually held a conference and called in help in order to address our questions. That changed my wreality and made me challenge my preconceived ideas about how people of other cultures may respond to situations.

Wrestling for wreality independently from my ethnographic background

Host: Once you began forming your own wreality after the age of 19 or 20, you say that you began to read and write more comfortably than when you were at school. Was your first creative piece of writing since you left school, the letter from Goethe to Newton, an expression of your new independent wreality (Mirkin, 2021)?

WW: I see this piece as possibly the first artistic fruit of my independent wrestle for wreality through science and religion as a science teacher. Teaching at Waldorf was liberating for me and I began to teach science using meaning and imagination-rich content as a way of manifesting what I had felt was missing in my own education (Steiner et al., 1972). I suppose I was learning as a young adult how to manifest what my toddler-self did when he gave his panda bear to others to kiss and what my 10-year-old self did when he taught his schoolfriends to fly in his dream, that is, to share that which is most precious to me.

In my early 20s, I had chosen to be a teacher to learn from children about our true human nature, and this creative writing piece shows how I was then seeing Newtonian science as an approach that does not enliven our fundamental humanity. The piece of writing uses Newton to represent important aspects of what I felt was missing in my education, and Goethe, who uses very Christian language in telling

Newton to eat his flesh, as the bearer of a scientific approach that brings a vitality to the full human being (Newton and Chittenden, 1850; Von Goethe et al., 1840). It seems that my wrestle for a holistic wreality had already begun manifesting fruits at that stage, and this seems to coincide with my courage to attempt a creative writing piece for possibly the first time since matriculating.

Host: Do you think that, among others, your stories of wanting people to kiss your panda and teaching your school to fly helped you to find your path in life as well as informing your wrestle for wreality?

WW: These early stories seem to reveal the underlying and mostly unconscious force that lived in me to become a teacher. This force was strengthened or undermined by various experiences, but the fact that the memories that reinforce my becoming a teacher are the ones that I recall so strongly, even those which were remembered by my mother, like asking people to kiss my panda, are indicative of this. It seems that my wish to be a teacher embodied my wish to share what is sacred to me.

In my second year of university as a 19-year-old, the inner force of these impulses drove me to take hold of my development more fully for the first time. I began to give direction to my life out of what lived in me alone because of my experience of the barrenness in education and of what I felt was lacking in my outer ethnographic life. This led to the change in my studies from engineering to education, several powerful spiritual experiences and my meeting with Anthroposophy (Steiner, 1994). The courage needed to make this change can be seen in many other decisions I made later, like being prepared to die for being myself in the army and my choice to separate the Pacific Island and Māori students on the rugby field. It is an interesting paradox that at 19 years of age, when I began taking personal charge of my life, I was also prepared to experience rejection or even have my life taken from me. My personal life and journey changed completely at that point, so the required courage that it took to break from the expectations of my ethnographic world and the Philip

who had been raised in them, could be a type of portal that is asked of everyone on some level on their journey from childhood to adulthood.

The courage needed to live according to my own ideas, despite possible rejection, helped me to release some of my survival fears, and I think that this aspect may be a fairly universal portal to a more compassionate and trusting way of living. This approach is promoted in many religions (Maslow, 1964) and it opened me to a new wreality in terms of religion and science, and how I teach science.

Host: Thank you. You only added a few memories to your data after your return to South Africa from New Zealand. In one of these stories you talk about watching a rugby game when one of your Afrikaner friends accused you of having no loyalty. Tells us about this.

WW: I added this story because it carries a picture of an aspect of my wreality which seems to have begun when playing hockey at school. Both stories are about me wanting my team to win, but when the opponent clearly outplayed my team with skill, I did not retain my focus on my own winning but shifted it to appreciating the mastery and skill of the opponent. This indicates a change in identifying with my own winning to identifying with the human ability to achieve greatness, which seems to link with the biblical idea of being prepared to let go of one's own life for something greater (Matthew 10:39). Even though these two stories are related to sport, this type of change links with the release of my Growing Self from my own world and connecting to other individuals, cultures and religions in an enlarging of my appreciation for all religious and ethno-cultural identities. In this way, letting go of one's own identity to embrace a more universal ideal seems to be a portal into finding something new in oneself.

Host: Any other personal learning relevant to your wrestle for a holistic wreality through science and religion as a science teacher that has come out of these stories for you?

WW: Many. My experiences as a parent and teacher helped me to gain a lot of detail about the many steps it takes for our consciousness to develop. Aspects of these come through in the stories of my son asking how the sun works where he wanted to understand physical reality as opposed to a story-type reality. The development of a type of abstract thinking at around 16 years of age is demonstrated in my teaching calculus where the students needed to trust their abstract thinking as the solid ground for finding reality. Many other stories show how I always seemed to be (and still am) looking for such portals into new perceptions that are relevant to teaching science. 'e and me' shows a portal using reasoning and heart-felt questions to experience the presence of the loving God in matter; my Waldorf teacher training showed me a portal into uniting imagination and scientific facts in the ideas of wood being fossilised sunlight; and the periodic table showed me the birth, ageing and death of matter. The responses of my students confirmed for me the rightness of my holistic approach to teaching science (Mirkin, 2021). These stories can also be seen as revealing mini-portals because they lead our Growing Self to new perceptions and a more holistic wreality.

Of all of these themes, the picture of our ethnographic world as the fertile ground or nursery for each Growing Self to develop a more personal and liberated wreality seems the most significant. Although I sometimes think of our ethnographic identity as an imposter when we hold our attachment to it too strongly, it is nonetheless our Growing Self that is metaphorically planted in the soil within which we can grow a more liberated identity closer to what I call our authentic Spirit Self. This idea helps me to understand the concept of the Buddha's non-self through the overcoming of suffering from attachment (Todd, 2015). It also seems to be closely linked to the Christian idea of leaving one's mother and father to follow Him, being a path to be reborn in the spirit (John 3:1-21). This liberated self is sometimes referred to as eternal, enlightened and non-corruptible.

It looks like a big part of my wrestle for wreality is in finding such portals. Developmentalists work to identify the most significant of these portals of development (Casey, Giedd and Thomas, 2000; Piaget, 1967; Vygotsky et al.,

1994), but it is very powerful and personal when you find them from your own need and experience.

Host: That is really interesting. Before discussing your ideas about rebirth, please tell us more about what you believe made you want to become a teacher and about your dyslexia which made your school learning difficult. Do you think these learning difficulties also made you want to go into teaching?

WW: I'm not sure. The dyslexia and other disconnection experiences of my youth prevented me expanding my knowledge through reading as well as from using writing or poetry to express myself. I only started reading for meaning at university once I started reading Steiner's books. While doing this study I have investigated my dyslexic lack of ability to read and write together with several other tendencies. I have a poor ability to remember things outside of a particular context, difficulty in sometimes looking people in the eye, an obsessive need to solve riddles and related puzzles, repetitive singing of short phrases to comfort myself and being hyper-sensory in sight and hearing. I now think that these tendencies may be pointers to me having always been mildly autistic. None of these idiosyncrasies have been dealt with in this study as I did not anticipate them being relevant to my wrestle for a holistic wreality as a science teacher, but now believe that they probably are. My possible mild autism will be discussed further in Code E, Section 3 of this chapter.

Connected to overcoming some of these learning challenges is the taking charge of my life path. Doing this gave direction to my life at the age of about 19 years which in turn led to me meeting with people who introduced me to Anthroposophy. It seems to me that something more than just my challenges in life was driving me, that some force of karma or guiding principle was moving me towards becoming a teacher from very young age (Steiner, 1974). Adopting reincarnation into my wreality was easy as I have always felt that there is no justice in life unless we are given the opportunities to grow as well as to meet the consequences of our actions, and that one life is too short to do it all. Reincarnation, where a guiding hand is

present to ensure and enable growth and justice was the only way for me to understand having chosen a path which matric-Philip had rejected.

I further wondered how it was that prior to meeting Anthroposophy I already held so many ideas in common with it, as Anthroposophy was so different from the world in which I was raised. Had I encountered Anthroposophy before somewhere? My only logical conclusion to this mysterious connection was that I had encountered it in some form in a previous life or in the spiritual world between lives. That reincarnation is such a common idea in many religions (Pinson, 1999; Steiner, 1974) made it easier for me to accept as a plausible explanation of these phenomena.

Reflecting on the spiritual experiences that gave subjective proof to aspects of my wreality

Host: Thank you. Your talk on portals to new perceptions seems relevant to what I would like to ask you next. Your holistic wreality clearly tries to incorporate all elements of both subjective and objective reality. Your story, ‘On the road to my mother’, is so subjective that you are going to need to help us make sense of it. It sounds so unreal. What are we supposed to make of that?

WW: [*Laughs*] Thank God it’s not just me (Dispenza, 2019; Freke, 2009). The event related in ‘e and me’ enabled me to recognise the biblical God of Love in matter for the first time. Since having had that experience, I have assumed that this presence of love has been in matter all along, so why had I not noticed it before? All I can think is that I had not been ready for it, and that my heartfelt questioning and seeking had somehow prepared me in the right way. I believe that a different preparation enabled me to have the experience ‘On the road to my mother’. As a science teacher, I have always tried to find the right preparation to enable my students’ success in their learning. These stories are subjective evidence to me finding the right preparatory path for a deeper kind of science education.

I have looked for more data through other people’s stories similar to ‘On the road to my mother’. Although it seems rare that people have spoken about similar

experiences, I now believe that they are not entirely uncommon (Freke, 2021). Most likely, people who are taken by such experiences are not rejected as I was, and so use their experience to bring real healing to the world as opposed to me who can only bring some measure of understanding (Dispenza, 2019; Freke, 2009). What I appreciate from this experience is how powerful the inner world is and why we should take it and not the outer material world as our primary reality. Materialism has distracted us extremely well so we do not often give our inner lives the attention that we should. Even since my experience of being flame, I still do not do what I know I should to honour the blessed and healing fire of love that I experienced. Here lies, probably, the greatest difference between physical science and religion. In current physical science, it takes intellectual interest, money and commitment to set up equipment to achieve results. In religion it is a matter of personal inner work which often seems impossible to achieve.

It is important to recognise the difference between my religious and scientific relationships to this event. I am primarily a scientist, although I am sure that many materialist scientists would reject this claim (Gamble et al., 2019), so I have tried to investigate the facts quite independently from my personal feelings. And yet it is the religious feelings that make the experience significant. I intentionally related several of the key events leading up to the experience 'On the road to my mother' because I believe that they are pointers towards what led to my invitation to the 'inside' and can offer other people some insight into finding a path of their own. That I still do not live that way is my own fault, and possibly an insult to the experience, but I forgive myself for my all too frail humanness. Perhaps it has something to do with the fact that the culture I grew up in does not lend itself to this kind of religious life. I don't know.

What excites me is that I find myself being able to bring something which is usually in the realm of what we call religion into the evidential realm of science. It is the science of subjective proof which will be rejected by positivist materialists, but it is nonetheless an approach to biblical stories that can be tested and wrestled with

using our modern rational logic while retaining a personal, religious or indigenous intimacy and significance (Kant, 2019) .

Host: If you don't mind, please elaborate a bit more on your failings and why they are important in this story.

WW: Blessed as I have been in so many ways from my background, one of my chief failings comes from the White English world in which I grew up, my elements of privilege, superiority and arrogance. When I rejected the mocking of my Afrikaner companions on the train, I was addressing one of my personal challenges and hence becoming more ready for the 'invitation'. Another of my failings is a lack of compassion and an excess of desire for pleasure and a life of ease. My sexual attraction and how it transformed into concerned care when I remembered the girl's unhappiness shows that sexuality seems to be closely connected to compassionate love and that a transformation of this desire into compassion is possibly another portal for human consciousness. My friend, Nigel Ambrose, who also had an experience of being in another world and not being able to use his senses, is a further indication that my experience may be a universal possibility for all people under the right conditions.

I attribute my complete investment in this compassion as the key that moved me through the portal that led into the spirit world. I am convinced that sexual love is an awakening that we have in order to draw our close and personal interest towards another person. That some of humanity's greatest spiritual leaders in Jesus and Buddha are believed to be celibate is therefore no surprise to me as a result of my experience. Understanding our failures in the light of what is needed to grow in our intimacy with life as demonstrated by the greatest lives could make a big difference in prioritising how to teach within a holistic educational framework.

Ultimately, I have come to believe that this divine flame that I experienced is my authentic God-given Spirit Self, that there is one for each human being to be born into the fertile ground of our ethnographic Growing Selves, and that Dispenza and

others have experienced the same thing in their own way (Dispenza, 2019; Freke, 2009). In this way, my holistic wreality has grown more robust with supportive and cross-referenceable evidence.

Host: Are you aware that certain people who take psychedelic drugs have similar experiences of feeling a deep connection to themselves and others? Some even begin asking questions about the deeper issues of life after such experiences (Móro, Simon, Bárd and Rácz, 2011). Who is to say that these experiences are not just delusions?

WW: [*Laughs*] I thought you might have asked this about 'e and me', with the use of marijuana.

Humans are a mind and body system where what happens to the one has its effect on the other. Many religions use various mind-altering substances, like marijuana for the Rastafarians and alcohol in Judaism and Christianity, but their use goes back to the practices of indigenous peoples, like the use of ayahuasca in South America (Trichter, Klimo and Krippner, 2009).

I think people enjoy drugs like marijuana and other psychedelics precisely because they create chemical changes in the brain and body that awaken spiritual-like experiences. Marijuana was pivotal to my 'e and me' experience but my spiritual seeking was probably more important in enabling myself to experience the God of Love in matter. The research shows that it is not necessary to relate these experiences to God or something spiritual, but that those who do, tend to suffer fewer of the negative side affects from such drugs (Móro et al., 2011). So, yes, I am aware of the use of psychedelics to induce this kind of state. I am also aware that there are people like Móro et al., who are interested in the use of psychedelics in thereputic environments to heal past trauma. I have not investigated these in this study because my interest is the stimulation of the body through the ideas and focus of the mind as it is prioritised in science, education and religion, including Islam which completely rejects the use of mind-altering substances (Ali, 2001:5:90).

Host: You have told us about two stories of near-death experiences (NDEs). One of your mother and one of the young man who bought your motorbike. Please tell us why you have included these in your wrestle for wreality.

WW: These stories help us to build our understanding of a range of experiences that border our usual awake consciousness. These stories have elements that are similar to what I had 'On the road to my mother' and my friend, Nigel's NDLE, so they help as further evidence for my wreality.

After these NDE stories had been told to me I researched other NDEs and realised that these are quite common (Greyson, 2021; Moore and Greyson, 2017). I believe the young man who crashed his motorbike was telling the truth, and now knew that heaven was real. For him, his own experience provided subjective proof. For me, it was subjective proof because I trusted my intuition that he was telling the truth. I also backed up my trust with reading about the experiences of others. Although many features in NDEs differ, they mostly have the same feeling of extraordinary well-being, experiencing bright light and so on (Burke, 2015; Moore and Greyson, 2017). I had already had my own NDLE of the Kingdom of Heaven so this was further evidence of some of the ways in which we can experience it.

Host: Are you aware that there are researchers who believe that these so-called NDEs are a phenomenon of the brain (Britton and Bootzin, 2004)? That the temporal lobe activity shows similarities to what is seen with epilepsy?

WW: Yes. There is no doubt that these experiences are related to the body in some way. I have not explored this connection but I am sure that it will be studied in great depth, and perhaps our knowledge of epilepsy may gain a deeper understanding when we do. The brain activity of some NDEs is a demonstration of the Goethean saying that what is within is also without (Von Goethe, 1994). If we define NDE experiences as illusions without any reality because a physical component can be found to them, I would say that this is a mistake. There is a tendency among physicalists and materialists to overlook the independence of metaphysical aspects

of experience when they find its physical aspect (Barad, 2007; Gamble et al., 2019). I clearly reject this reductionist approach since only subjective proof for these experiences is possible. The fact that a subjective experience is clearly connected to a physical phenomenon surely demands of us to recognise the validity of both the objective and subjective worlds as well as the intimacy between them. I do, however, recognise that there will be some folk who will refuse to recognise the validity of the subjective experience as equal to the objective facts, and with such folk it is futile to try and reason the point.

Host: Your story about seeing the music dragon is hard to put into context with the rest of your data, even some of your other spiritual-type stories. Help us to understand it please.

WW: What distinguishes this experience from the previous ones is that the vision was not experienced as being inside my mind, but outside of me in the world of space and time. This makes it much more like our usual senses than like an experience of heaven.

Let us remind ourselves about how our sense of sight works to bring a holistic inner conscious experience from outer stimuli (Von Goethe, 1994). The light enters our eye and is then changed into nerve signals which go to the visual processing parts of the brain where they are transformed into pictures that we can see (Lamb, 2016). But remember, with our sense of sight, we don't think that we are seeing the pictures in our brain, we imagine that we are seeing them back out in the world from where the light comes. This mysterious process of projecting the images that are forming in our mind back out into the world must in some way be involved in the way I saw the music dragon.

Seeing the music dragon enabled me to incorporate the traditional stories of fairies, gnomes and other nature spirits firmly into my wreality. If I am right that nature spirits are our imaginations being projected out into space, it will also explain why these creatures appear differently in different parts of the world and to different people. I

have read several books over the years of accounts of people who claim to have seen nature spirits such as those of Verena Stael von Holstein (Weirauch, 2004) and Pogacnik (2012), and they have helped me to formulate my thoughts on the matter and to understand my experience more clearly.

Host: I don't mean to be rude, but you did mention that you are fairly gullible. What's to say that your overactive imagination and gullibility have not led to this imagination, and now you are developing your wreality around what would essentially be a delusion?

WW: All subjective proofs could be delusional, but, like seeing colour with our eyes, when we share these experiences with others we trust that they hold some general reality. There are many people of our time who claim to be able to not only see such beings, but also to be able to communicate with them (Helliwell, 1997; Pogacnik, 2012; Weirauch, 2004). Those who talk with animals describe the way in which they do this in a similar way to those who talk with nature spirits (Breytenbach, 2015), and there is also the long and varied history of fairy tales (Crombie, 2018; Grimm and Grimm, 2016). My love of fairy tales could be seen as a negative influence that has overstimulated my imagination, but in reading fairy tales one is again facing the same challenge as when reading the Bible – either we can be convinced of it by subjective proof, or not.

Host: Talking about having such imagination-type experiences, could you tell us about the experience you had while pushing your son on the swing, where you 'almost' saw angels?

[Audience, Host and WW laugh]

WW: This story is related as an extension of the previous one. This seems to be an example of mirror neurons and synaesthesia on some level (Swain, Kim, Spicer, Ho, Dayton, Elmadih and Abel, 2014). My current understanding is that my mirror neurons were possibly resonating in harmony with my son's and mildly stimulating the sensory parts of my brain, resulting in my sensing, rather than seeing what my

son was possibly seeing. I currently believe this to be the case because, as I was 'almost seeing' the angels around him, I could also feel their presence. Of course, this could all be nonsense, but my other experiences and readings on mirror neurons and synaesthesia (Cook et al., 2014; Fisher and Tilot, 2019; Marshall, 2014) give me a framework for understanding how this could possibly be true.

Host: Tell us now about the story of your friend Francois's memorial service. You finished your story with a short speech about science and religion. Surely the most significant aspect of this story is you believing that Francois appeared to you from the world of the dead?

WW: As magnificent as Francois's visit was, and as much as it forms the central feature of that story, it seems more significant to me that it confirmed for me that a belief in God is not a precursor to accessing the positive region of heaven or the spiritual world. Perhaps more significantly, it further emphasises the harm that untested and unchallenged beliefs or interpretations of religious texts have on earnest and sensitive souls like Francois and his school friends (Kant, 2019).

Host: There is an interesting turn in that story. At one point in your reflections, you are asking your heart questions to Francois's school friends and then suddenly you turn your attention back to the effect that their non-reasoned approach to these questions have on Francois. Do you plan or think about doing this, or does it just happen naturally?

WW: It is just my natural way of thinking through things. It has not always been this way but I suppose that as a teacher of science one is forever having to check everything from every perspective in order to ensure that each child can cross reference what you are saying. I have always wrestled for my holistic wreality by cross-referencing my personal experiences with the findings of science and religious writings, so moving back and forth between different ways of looking at a given situation is now second nature.

Host: Do you think the discomfort of Francois and his school friends may also be why you so badly want to bring science and religion into a working relationship?

WW: I have no doubt about it. Even listening to myself telling these stories and debating through them I can see how in one minute I draw from the findings of science and in the next I am seeing it from the perspective of personal experience or religion. That is also why I call this study a wrestle through religion and science, and not science and spirituality. I take my personal spiritual experiences as a given, as fact, and, in the same category as the facts of physical science. It is part of my wrestle to gain help from the findings of science and religion, including older forms of religion-like stories, like fairy tales and folk stories.

Our human resistance to letting go of our attachment to old ideas within our wreality seems like a refusal to embrace reality as everchanging. What makes letting go so hard? It seems that it is not easy to let go because the future has not yet arrived, as Mandela is quoted as having said, 'It always seems impossible until it is done' (Mandela, 2020). I think it is easier for folk like myself who grew up not believing in the world they come from to let it all go, and, in that liberated state of having nothing to lose, to go in search of the new. I think that my inner desperation towards the end of my schooling, during university and in the army may be the reason why so many of the really transformative events in my life took place then. The particular experiences that came my way in that time helped me to find meaning in life and not go completely off the rails. I was also young enough and had not started to build my adult life on the ideas of the past which possibly made it easier to create my holistic wreality without any historical constraints. I also loved music as a teenager, and the musical influence within my liberal world played a big role in bringing me thoughts and feelings that I incorporated into my wreality.

Host: To comment on Wreality Wrestler's near-death-like experience from his personal experiences is George Richie, who has told his story in his books, *Return from tomorrow* (Ritchie and Sherrill, 2007) and *My life after dying* (Ritchie, 1991). George, what did you make of what we heard earlier?

George Richie: Thank you. There are a number of small similarities between my experiences and those of Wreality Wrestler. One similarity is the experience of blindingly bright light that somehow doesn't hurt your eyes. Another is in Wreality Wrestler's *The World of Is*⁵⁵ in which he describes the power of thought to enable things to happen, like the mother appearing when they thought of her. This was my experience too when travelling away from and then back to the hospital where my dead body was lying (Ritchie and Sherrill, 2007). It seems that Wreality Wrestler was inspired to write these events from his experiences. Further, his experience in the army, where the four men came to intimidate him and the transformation of their attitude, possibly as a result of his lack of fear and his inner interest in them, resembles in its own way what happened with Wild Bill Cody in the Nazi concentration camps where his deliberate decision to love everyone enabled him to remain physically and mentally healthy in the face of extreme deprivation (Ritchie and Sherrill, 2007). I enjoyed listening to these stories and feel a resonant truthfulness and spirituality in them. Thank you.

Host: Timothy Freke is also with us to reflect on Wreality Wrestler's spiritual experiences.

Tim: Thank you. My first experience of feeling like the top of my head opened, similar to what Wreality Wrestler describes in his 'On the road to my mother' was when I was 12 years old (Freke, 2009). I've been trying to understand that experience ever since and have written many books and talked to many people about it. There are, in fact, a great number of people who have had this type of experience and I believe it is more common than one might think. It is interesting that people who have these types of experiences usually take them just as seriously as Wreality Wrestler. They are life affirming events that one doesn't tend to forget in a hurry. In my workshops with people to experience a unified sense of self with others, I have come to the impression that this experience is teachable, but people

⁵⁵ The extract to this book that I have written was removed to reduce the number of words in this thesis. The power of thought to make things happen is demonstrated in an imaginary framework in this book.

who are too attached to certain ideas find it difficult to let these go. In my opinion, one of the most interesting of these limitations is that a scientific mindset seems to be the perfect ground for a liberated experience of life, but the determinism, reductionism and materialism of the positivist paradigm hampers this (Freke, 2021). Wreality Wrestler's stories are a fine addition to the great number of similar experiences which help to confirm that this feels like a truly new moment in history. New experiences of Allness are emerging through what I call the evolution from the individual to the 'Unividual' (Freke, 2021), similar to what Wreality Wrestler calls the evolution from Growing Self to Spirit Self.

Host: Wreality Wrestler, as part of your data you shared some of your personal experiences as well as education and science poetry. How do these inform your wrestle for wreality?

WW: I suppose they are all about my relationship between science and religion. In my short book, *The World of Is* (Mirkin, 2021), I weaved my full range of biblical, scientific, personal and researched understandings into the story. This is the way in which I have tried to create a true representation of my monist holistic wreality.

Many researchers whose work I read while doing this study speak about the loss of intimacy with and reverence for nature that our current, rational, materialistic science education brings, as opposed to imagination-filled, religious and indigenous cultural attitudes and values (Aikenhead, 1996; Edelglass, Maier, Gebert and Davy, 1992; Emdin, 2010; Forsyth, 2017; Hadzigeorgiou et al., 2012; Harrington, 1999; Keane, 2008; Kimmerer, 2013). Some researchers advocate using story to help contextualise and improve interest in science at school (Mirkin et al., 2020; Salehjee, 2020; Winston, 2019). And yet some current writers cited in this work who have spoken about their experiences with animals or nature spirits have come from an analytical or science background in some form (Breytenbach, 2015; Crombie, 2018; Weirauch, 2004). There is possibly something that can be gained from our current analytical and scientific discipline of thinking that assists us to re-find our intimacy with Allness, as Freke suggests (Freke, 2021).

My science poetry is intended to show the holistic relationship between the outer scientific content that we study in the science classroom, and the lived experiences of students. The success of this is evident in the feedback from my students (Mirkin, 2021), but also in my confidence that the content satisfies the need for scientific accuracy while enabling my students to relate to it in a human, spiritual and religious way. 'The Periodic Table' poem possibly shows most clearly the Smuts (Smuts, 1926) idea of the holistic evolution of matter reflected on the human developmental level as the different stages of human life. These poems are intended to be an expression of the holistic nature of reality as the result of my own wrestle for wreality.

Host: This makes me think of your use of language to find your preferences and bias (Willig, 2013). When I think of the language that we use in religion, words like belief, hell, faith, God and so on are commonly used. When using words like Christ or God you do not rely on what others may say about them, but tend to define them in specific ways, like your defining of Christ as the archetypal ideal towards which humans can strive. You have also not appealed to your experiences as miracles or divine intervention. You have used the approach to language more common in the sciences, like investigating phenomena and not trying to prove universal conclusions based on yours and others experiences by acknowledging them as your wreality. On the other hand, you do not appeal solely to evidence of an empirical kind but look to evidence of a personal experience from yourself and of others to build your wreality. This seems to fall neither into the field of science nor that of religion. Can you explain this?

WW: Thank you for this reflection. As said at the start of our time together,⁵⁶ I reject the materialism of science as well as faith based on particular interpretations of religious texts without evidence to form a subjective proof, so I am glad that my language reflects this.

⁵⁶ What was declared in 'Dramatised metaphor of my relationship to science, religion and education to declare my focus and bias'.

Host: Let's now look at your relationship to religion. In your presentation, you use many examples of various Jews in your work (Arendt, 2006; Frankl, 1985; Ritchie and Sherrill, 2007) and yet when you quote religious texts you almost always quote from the Christian New Testament Bible (Holy Bible, 1611). Looking at your religious identity and wreality within your definition of religion, it seems to me that your cultural attachment is still very much being Jewish but your religious attachment is being Christian. Is this accurate?

WW: I think you are right in this in an interesting way. Growing up Jewish has created a strong interest in me in aspects of Jewish history. It feels important to me to keep my finger on the pulse of antisemitism as well as the experiences of my fellow Jews even though the religious ideas I hold come more from a Christian perspective. When I saw the rabbi during my time in the army, he described my thinking, talking and acting as being Jewish. He is probably right, and it seems that many of my habits have remained from my Jewish upbringing. I see these as gifts from the 'soil' into which my life has been placed and my gratitude for these gifts is enormous. Yet, even though many of my habits of thought have been inherited from being raised Jewish, my actual thoughts are attracted more by Christian and Buddhist ideas, thanks mostly to the work of Steiner (Steiner, 1909, 1974).

Perhaps this is why I wanted to create the distinction between religion and culture at the start of this thesis. I was not particularly conscious that I was doing this at the time, but my presentation certainly seems to show that my culture is more Jewish and my religion more Christian. Whether this shows that I have extended my roots out beyond the soil into which this life has been placed is an interesting one because of my Christian mother and schooling. I certainly see the ideas of monist holism from Goethe (1840), Smuts (1926) and Steiner (1966) as having stretched my thinking beyond the limitations of my soil and it was through these that I was able to build my holistic wreality and embrace Christianity with cross-referenced confidence.

Analysis of the science poetry and 400 Days on Land

Host: Your Farewell vision in 400 Days on Land is clearly intended to be a metaphorical conclusion to your data in a similar way that the 200 Days at Sea was the introduction. Your Farewell Vision showcases an artistic demonstration of the holistic wreality which you arrived at through this study. Please share with us the essential elements of this new-found wreality.

WW: This creative writing represents the natural world as well as our autobiographical and ethnographical worlds as the soil of life. All levels or substances of Smuts's holistic evolution have developed within this soil. The creative writing piece suggests the influence of higher beings that have enabled this evolution as each new Smuts-substance has emerged from the matured lower levels or substances (Smuts, 1926). Current scientific ideas of evolution present evolution as a relatively random process of mutations and variations, but Smuts does not, and he shows how evolution has manifested new substances with identifiable patterns within holism. Goethe's *Urplant* (Von Goethe, 2009) points almost directly to a spiritual influence in his recognition of some archetypal inner presence that lives in an intimate oneness with manifesting myriad creative forms in outer manifestation. If this is indicative of evolutionary processes that present observable patterns, then we can follow them to identify the possible next steps of evolution.

The Farewell Vision also gives indications of an educational process that leads to the birth of the Spirit Self. In this I see clear indications about how we could reconceptualise human life and hence, the way that we educate.

As the eyes and nervous system are the portals through which we translate the outer electromagnetic light waves into the experience of light (Lamb, 2016), so it is possible that the pineal gland and hormonal chemistry are the portal through which the next step of holistic evolution may manifest an individualised experience of spiritual substance. This idea seems supported by the findings of Dispenza (2019) and people who have had NDEs and NDLEs (Greyson, 2021), and, like my own

experience 'On the road to my mother'. Religious scriptures indicate the path to experiencing blessedness in many ways, including rebirth, enlightenment, nirvana, Holy Spirit, Messianic Age, Atman, salvation, Kingdom of God, mercy or heaven.

The idea that there is a realm where people will experience bliss mirrors my creation of an imaginary land to present my co-constructed data. My Chapter 5 journey took me metaphorically over water to get to this created land and then back onto the water to return to my actual world. In this way, land and water seem to respectively represent finding and letting go in order for something new to arise. This is not only true for the co-construction and presentation of the data in this thesis, it seems to also be true in my own life journey from rejecting religion, science and the ideas of my ethnographic upbringing to travelling adrift in search of new ground for my independent wreality from the age of 19.

This wreality helps to inform me of some of the elements that may be helpful to enable human beings to move with an objective understanding towards the birth of their Spirit Self in their personal evolution. The birth of the Spirit Self seems to be one level of evolution that will be brought about by human conscious effort and awareness. Another level seems to be our clear, rational objectivity brought about through scientific thinking. Humanity has been prepared for both of these new evolutionary developments through many great leaders and religious writings over the last few thousand years.

If my holistic wreality becomes shared by many, then we would need to consider the implications for the ethnographic world of religion and culture. We will also need to include it in our considerations for education and science education in particular in its role in developing clear, rational thinking for higher evolutionary purposes.

Host: Thank you. It is certainly an interesting wreality to contemplate.

We have some guests with us in the Commentary Box who would like to comment on these final presentations. Professor Alma,⁵⁷ as an expert in science education, would you please share your views?

Professor Alma: I particularly enjoyed the science poetry. Initially, I was looking critically for accuracy of content in the poetry because an artist may take one small scientific fact and then weave a misplaced notion of it into their work. I could let go of that worry once I began to trust that the facts of science were being well represented. I could see that the poetry was written by someone who knows and understands the relevant science content very well so I could stop analysing the facts and relax into the imagery of the poems. I really enjoyed them.

His book, *The World of Is* (Mirkin, 2021), is a different story. [Laughs] Here there are too many scientific ideas, not always correct, all mixed together with emotions. This is not the same standard as the poetry and it will be confusing for anyone trying to understand which ideas are scientifically accepted as they are mixed with speculation and fantasy. For example, in this book he presents the Moon's separation from the Earth to be the cause of death of the dinosaurs. These days, even schoolchildren know the dinosaur extinction was caused by a giant meteorite impact. Also, the author should know that if the Moon separated from the Earth, it must have been before life began, otherwise we would surely find evidence of life on the Moon. Besides these flaws, it is an imaginative description of the author's experience of belonging.

What makes this study most interesting is the idea of comparing a personal substance with a 'yet to be detected' realm of science. Presently, scientists believe that most of the universe is comprised of dark matter and dark energy but have no current way of detecting it. I do not think these missing substances will be detected by a non-scientific approach.

⁵⁷ Professor Alma is a pseudonym for an actual professor of science education who reviewed this work and gave the comments presented.

Wreality Wrestler presents the many verified accounts of NDEs as experiential evidence of the supernatural, what he refers to as subjective and metaphysical. As a physical scientist I am not interested in such things. However, some scientific reports have indicated that the vision of light could be attributed to particular regions of the neural network shutting down during NDEs. It could be interesting to see if people would have such experiences when subjected to the conditions he has described. Even if this indicates a correlation, the explanation of a supernatural experience would still remain a hypothesis.

Richard Dawkins: I found the science poetry to be delightful. From now on, when people accuse science of being barren of reverence and deep personal feeling I will just point them to works like these (Dawkins, 2000). But let us not think that this is the first of its kind. Charles Darwin's grandfather, Erasmus Darwin, was writing more stimulating and powerful works using scientific ideas in a style that even influenced some of the great poets of his time (Darwin, 1798). Although this wreality wrestler went and ruined it with so much superstitious and fanciful nonsense. What is this *The World of Is*? And what is a wreality? It's nothing other than a tasteless soup of unclear thoughts mixed up with all kinds of romantic notions and delusions. He would do better to stick to the science poetry and leave out the rest. Reality is what we are after. Wreality! Wreally?

[Audience laughs as Dawkins scowls.]

Wolfgang von Goethe: Ladies and gentlemen, please. Must the rational world come first in all things? In evolution it seems like our current power of rational thinking is a late arrival, coming long after the intimacy of life and love. I beg you to bear in mind that the inside and outside are simply reflections of each other in different dimensions (Von Goethe et al., 1840). In this regard, as much as I enjoyed aspects of the earlier poetry, it sometimes seemed like Wreality Wrestler was apologising for introducing tiny pieces of humanity into scientific thinking. *The World of Is*, on the other hand, is an unashamed expression of love as the unifying and liberating principal of perception and reality. It points to our scientific findings as

useful tools to awaken us to how matter and energy reflect the deeper workings of this great love. The way he portrays this love as a flame is courageous, moving and imaginatively stimulating. It also feels true on many intuitive levels. I find it a delightful effort in holistic thinking.

And I would say the same of his wreality. His metaphoric use of the soil and the outer light to represent the true awakening of the human spirit rings true for me. Hopefully he will work further on this.

Jan Smuts: It is a pity that his thinking is rather woolly and imprecise, but I have enjoyed the way in which he has taken up holism in his work. It is a start, but it has a long way to go before it will be able to convince current thought in the way that it could.

I say this because his exploration of this thing he calls his Spirit Self is possibly related to the refined human spiritual substance that may well be the next level of holism beginning to manifest above the level of personality (Smuts, 1926). I find this to be an exciting possibility that he would do well to explore further. I would say that he has faithfully reproduced the way that one level of holistic reality gives birth to another, so, despite his soft thinking, he may be onto something here. I will think more on this.

Basarab Nicolescu: I liked the poetry in which he is trying to show different layers of reality working together, and particularly how he represents matter passing through the different stages of life as we progress down the Periodic Table. *The World of Is*, however, really moves into showing how this can be experienced. Transdisciplinary work is not different aspects of reality being examined separately as though we experience it as a fragmented entity made as a combination of different elements; rather, reality is a single, monist entity whose manifestation can be examined in multiple different ways (Nicolescu and Ertas, 2008). In *The World of Is*, I loved the seamless way in which the characters experience their transition from the outer to the inner world. This does not require the loss or addition of any

of their human faculties of feeling, logic or perceptions, just a transformation of environment. In this regard, the presentation can help us to explore reality in a transdisciplinary and holistic way.

Rudolf Steiner: I believe that although Wreality Wrestler has done well to move from having no basis for his wreality in his childhood, to now having a wreality that seems to have a firm foundation, his journey is not yet over. In My Life Story, he told us of several experiences of opening a portal to spiritual or religious experiences. He then described how he believed that these were, at least in part, a result of his selfless compassion for others just prior to the portal opening. I believe that he is right in this observation and it leads me to recommend that he spend some time meditating on the following verse.

Spirit Triumphant! Flame through the impotence of faltering, fainthearted souls! Burn up egoism, kindle compassion, so that selflessness, the life-stream of humanity, may flow as the wellspring of spiritual rebirth! (Steiner, 2009)

Host: Thank you for these responses. It seems that every one of you was looking for and found elements that your wreality could connect with. I think we can agree that the elements of science, personal experience and religion can be found in an integrated form, particularly in *The World of Is* and the presentation of his personal wreality in the Final Vision, and that this appeals to those involved in holism and transdisciplinary work but not those who wish for physical science to solely inform us about reality. Are any of you surprised by this?

[A general shaking of heads and smiling occurs around the Commentary Box.]

Then can we agree that this has been an interesting and stimulating presentation?

[The audience break into a round of applause in agreement. The Host now addresses his attention to the FoE and the audience outside the Commentary Box.]

Very well then. Dear Wreality Wrestler, thank you for sharing your stories with us over these most engaging evenings.

Section 2: Data analysis using the Concept Map of Autoethnography

Host: Looking at this map, (see Figure 6.1) I can easily think of elements from your autoethnography that would fit on each part of the map except for critical elements. Help me out. Did you present any critical elements that aim at challenging and changing your ethnographic world?

Concept Map of Autoethnography

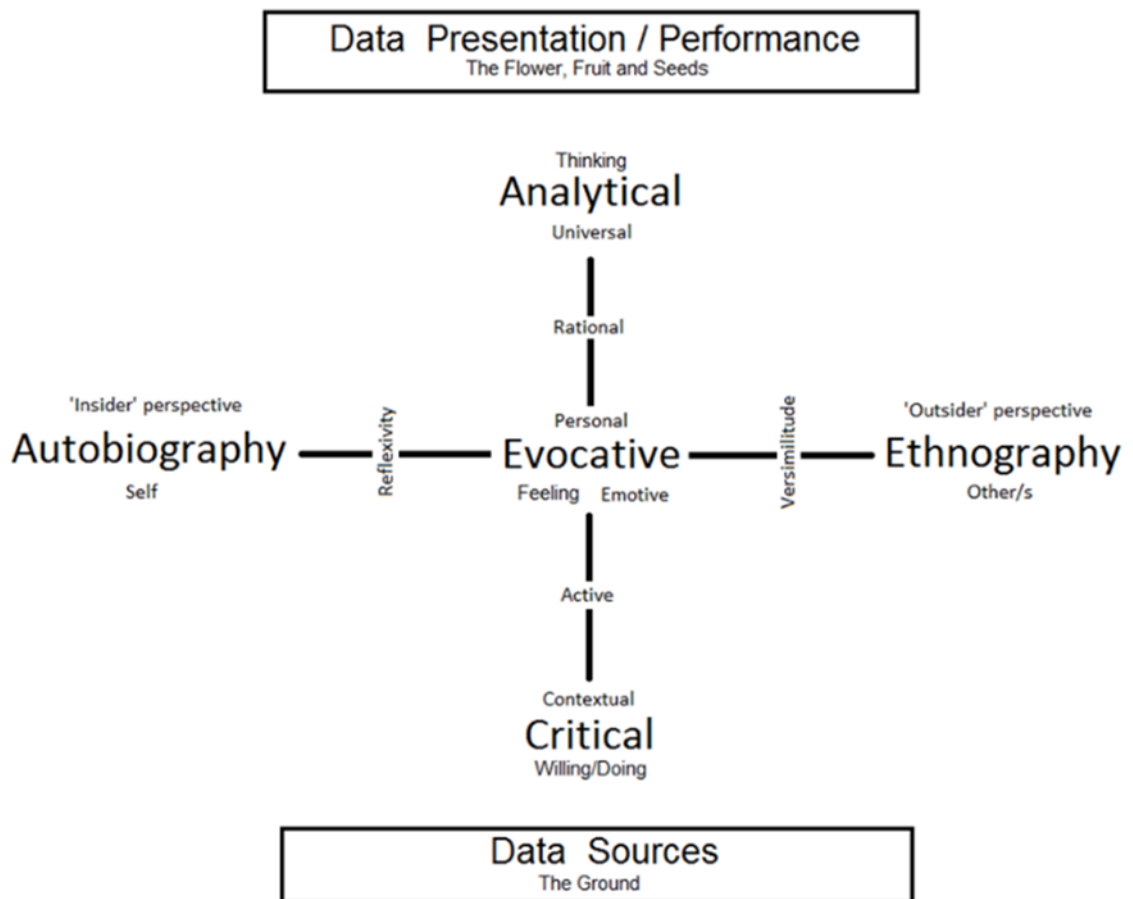


Figure 6.1: Concept Map of Autoethnography

WW: Yes, I did, but they are often hidden as inner driving forces within me. My drive to get people to kiss my panda, to teach the school how to fly, and my teaching approach and use of science poetry are all critical elements in me trying to share that which is meaningful to me and which will in turn change the way we see our world. My science poetry and writings are also my way of trying to change our relationship to science and the way that we present it in science education. I suppose that my criticality is very individual because I simply never found anyone to join forces with. I made several attempts to find others to join me such as when I ran for the UCT SRC, but each attempt quickly failed (Mirkin, 2021). Had there been a public upswell for the arts in science then I imagine I may have been writing public speeches instead of a doctoral thesis.

Host: So, you think that if your issues were shared by others yours would have been a predominantly critical autoethnography?

WW: Very possibly, although I feel like my wrestle is an expression of criticality in that it is my way of critiquing and superseding the worldviews that were given to me in my youth. In a way, it is my version of Black folk religion to overcome my 'ethnographic world masters' seeming demand of what are acceptable thoughts about religion and science with a higher ideal (Sales, 2019).

Host: Thank you for that clarity. With that pressing question now out of the way, would you mind running through your data presentation with reference to your concept map?

WW: With pleasure.

Chapter 5 starts with a critique of how I believe science and religion are experienced by most people in my ethnographic environment. It tries to show the one-sidedness of each worldview when they are not cross-referenced with the other. The farmers on the land present a balance between science and religion.

The metaphorical land that I created in *200 Days at Sea* tries to take this picture further. *200 Days at Sea* starts me with positioning myself within a theoretical framework which is, at the same time, a cultural positioning. This is a critique of my personal ethnographic world in that I felt the need to create my own ethnographic world independent of my actual one to feel ready to present my co-constructed data (Cohen-Cruz and Schutzman, 1990). On the one hand, this created world reflects the positive elements from my actual world that I felt nourished me even though I needed to search for some of these elements. An intimacy with nature and people, meaningful work, good conversation, the striving for excellence, open-minded exposure to good art, other cultures and religions, the local availability of the writings of Rudolf Steiner, Plato and so on, were all available within the radius of a few kilometres from where I grew up during my teenage and young adult life in Newlands, Cape Town.

On the other hand, my land has removed elements that I reject from my personal background, such as a dependence on technology for transport, protection, entertainment and medicine and machines for health. It also rejects a dominance of rational, materialist, scientific thinking and the separation of science and religion as well as what I see as the modern ideal of having an over-abundance of comfort and luxury and an obsession with economics and politics. This focus clearly shows my priorities and bias.

Interestingly, I have placed each national or cultural group in separate villages. This implies that I do feel differently towards different groups, and that they represent different qualities and priorities. This is reinforced in my encounters in *My Life Story* with folk from backgrounds different to myself. Furthermore, no group to which I belong is directly visited during my stay. The South African part of me only features after the Great Festival by those who sing of ubuntu 'through my heart', and the Jewish part of me is represented by the 12 tribes of Israel, King David and King Solomon during the gathering. At this same festival, I have also presented Christian, Buddhist and holistic elements that I have adopted for myself. Although these elements were not expressly a part of my ethnographic background, they were all

easily available within my Newlands world. That I have placed them alongside the elements from my own background indicates how holistically they had become integrated into my wreality 200 days into this study.

This initial presentation is, therefore, both a critique of what I prioritised, valued and rejected from my ethnographic background and a confirmation of the rich variety of ideas and practices that were allowed to exist within that world even though they were not part of popular culture. 200 Days at Sea is done in an evocative manner, with no active analysis evident. It is also independent of any co-constructed data or autobiographical substance. My autoethnography thus starts by positioning itself on the concept map as performative and evocative with an ethnographic criticality.

Host: Does this change once you begin with My Life Story?

WW: At the start, the focus is on my parents who represent my autoethnographic background. The story then moves to some autobiographical events within specific contexts at kindergarten and school. This shows a shift towards the autobiographical end of the scale while still including ethnographic elements. Each story shows aspects of biography and ethnography in a kind of breathing from one side of the horizontal scale to the other. These stories are also a mixture of evocative, analytical and critical elements.

Throughout My Life Story the focus is on the co-constructed data sources of memory, old photographs and documents. Previously written creative writings and poetry, which have strong performative elements, are also presented as part of the data. The focus of My Life Story therefore shifts between auto- and ethno-elements with evocative, analytical and performative aspects.

Towards the end of My Life Story, the stories become more philosophical and religious, and so have less ethnographic substance and emphasise inner, spiritual experiences with related analysis. In Goethean holistic fashion, this shows a shift from the outer, manifest elements of my ethnographic world to challenging its inner elements (Von Goethe, 1994). At the same time, this move shifts the focus of the

data towards the autobiographical side of the concept map. The analysis that is written into many presented stories such as *e and me*, *On the road to my mother*, *Seeing the music dragon*, and *Francois's visit*, indicates a general movement from the evocative to the analytical part of the vertical scale in each story, as though the evocative elements are primary and the analysis follows naturally on from this.

My overall life story also seems to shift from an initial criticality towards my ethnographic world, through a highly personal and evocative phase of developing my grounded wreality, to finally have more of a focus on theorising and analysing my wreality. Obviously, all aspects are present in each stage, with a large amount of criticality in the writing of science poetry, but I think there is a general shift in the primary focus that moves from the bottom to the top of the vertical scale.

In the presentation of the science poetry and writing and through the *400 Days on Land*, the data returns to being more performative and evocative while presenting the fruits of the distilled analysis from my wrestle.

Host: You say that your *Farewell Vision* in *400 Days on Land* is a distilled version of your new wreality once you had finished your life story. Could it be that the land you created after your *200 Days at Sea* could be a distilled version of your wreality at the start of your journey?

WW: Yes, I think you are correct. Having left my ethnographic world by undertaking my metaphorical journey across the ocean, I created a world that represented an external manifestation of my wreality to write *My Life Story*. Within this land, I felt free to explore and share aspects of my wreality that I would not otherwise have had, such as the initial creation of the *Great Festival* and later some of my very personal spiritual and religious experiences. Having now written *400 Days on Land*, I feel like I can carry the fruits of my autoethnographic wrestle back into my actual life as it has become a part of my new wreality.

Host: In summary, can we then say that your autoethnography has moved significantly from the ethnographic part of the horizontal scale to a critically,

evocatively and analytically breathing back and forth from autobiographical to ethnographic, and then ending more on the side of autobiography before being lifted up into the rarefied atmosphere of analysis? And that the data focus began on the performative top, then descended to the placing of your data sources in the middle to again lift off into the Farewell Vision creative writing performance?

WW: Yes, it seems so. I didn't plan this, but I suppose that placing the co-constructed data sources in the middle of my data chapter helps to give this study the substance that grounds it with historical evidence whereas the performative start and end are given like attractive flowers trying to draw the reader in at the start and ending with the fruit and seeds of this study.

Host: Many autoethnographers name their autoethnographies as evocative, analytical or critical, or some ethnographic category, critical event, or how they present their data (Elbelazi and Alharbi, 2019; Niemi, 2016; Sochacka, Guyotte and Walther, 2016). Having looked at your autoethnography through the concept map, what type of autoethnography would you now say that you have created?

WW: My autoethnography has traversed the full autoethnography map. This map now seems to me to describe the autobiographical and ethnographic ground into which I was planted, as well as my critical, evocative and analytical responses to it. In this way, my autoethnography looks like it describes the world of my Growing Self or Smuts personality and my wrestle for reality within these ethnographic elements (Smuts, 1926). My autoethnography could then be seen as a holistic integrative autoethnography as it moved between all areas of the concept map while trying to find an intimate relationship between them. My wrestle with religion and my personal experiences also reveal a transcendence from the map onto a level of existence that has a relationship to the Kingdom of Heaven (Holy Bible, 1611). In this way, my autoethnography strives to transcend the divides between the different elements of autoethnography and find an intimacy with what is potentially beyond what is found on the map. Perhaps then we should call it a holistic integrative transcendental autoethnography?

Perhaps if we look at the findings or emergent codes from my co-constructed data and its analysis we will be able to see if this naming is a good fit?

[We now step out of the WWA and back into the thesis. We will re-enter the WWA in Section 4 when we address the research questions of this thesis.]

Section 3: Emergent themes/codes from my data

The six codes that follow are to be seen as forming from the analysis already presented in this chapter. These codes draw out key findings from this study that are used to address my research questions in Section 4 of this chapter.

Code A: The gifts of my privilege

I found no cultural or religious home in my ethnographic world while growing up, and the result of this has been evident on almost every page of this thesis as I wrestled for my wreality. There are, however, elements that need to be presented here that acknowledge the positive role that it played in my wrestle. As described earlier, during the years between 1974 and 1987, which comprise most of my formative years, I lived in the free-thinking, liberal, English-speaking world of White, southern suburbs Cape Town. This micro-world presented a reality that was very different to that lived by most others in Cape Town (Bickford-Smith et al., 1999). My school and university were among the most liberal-minded, formal education institutions available in South Africa at the time. The privilege of this background offered me financial, social and status opportunities. It seemed to offer me acceptance to be whatever I wanted to be despite its predominantly scientific, capitalist, Christian leaning. The data that represents this politically liberal mindset best is the fact that there was a bookshop a few kilometres from where I lived that had Steiner books as well as books on Buddhism and other spiritual and religious ideas. A practical expression of this liberal mindset is my friend who cried when he realised that my Coloured girlfriend would not be able to go to the cinema with us because of apartheid laws (Union of South Africa, 1953). His caring response and the fact that no friend ever commented on our racial difference or looked negatively

at us is indicative of how free of racial prejudice we were despite our mocking of each other's many differences. It appears that at the ages of 14 or 15 we knew that racism was a serious matter and that it was wrong.

This southern suburbs world, as well as the laws of South Africa at the time, presented me, classified as a White South African, with many opportunities and no survival challenges (Union of South Africa, 1950b). Beyond being forced to do a two-year army conscription with limited and discouraged alternatives, I was free to pursue life at my leisure without any concern for my basic acceptance or survival on any level. My co-constructed data reflects that I made no mention of anything related to poverty, hunger, persecution, the war that featured in the lives of some of my White peers who saw combat in Angola (James, 2011) or those who left the country to avoid conscription. My data shows that except for a few cases like the Dominee in the army, despite often holding very different ideas, I usually experienced acceptance, even when some people may have initially rejected me.

My data shows that I accepted my privilege as a natural inheritance. My English world demanded that I take a practical, liberal and calm approach to life. It also emphasised a reason-based relationship to life where religion was seen as a private affair to be excluded from debate. My science training demanded that I think logically and practically and test all things thoroughly, and my Jewish world demanded that I know how to express myself with articulate clarity in all matters, including religion. Each of these worlds had their own ways of building and testing our integrity and competence, and so we sharpened our skills accordingly. The gifts of this privilege gave me an accent and way of thinking and talking that opened many doors to life's opportunities. It also gave me the experience, self-confidence and empowerment that left me feeling entitled and able to engage respectfully with anyone from any background. My stories reflect this confidence and trust as well as my learned skill of letting go of too strong a personal attachment to any singular position. It seems that a potential gift that those of us with such privilege have is to walk humbly and confidently into new situations with our trained faculties of open engagement and awake mind, trusting that we can find meaning and human

connection there. This is shown with the Xhosa teacher at Waldorf Constantia, where I trusted my inner confidence and ability to understand the inner experience of her difficulty to find a strategy that could help overcome the perceived rudeness of her class, and with my second Xhosa colleague, I was able to meaningfully accompany her through her Xhosa fertility rituals.

This gift of privilege that I attribute directly to my Jewish and English-speaking southern suburb Newlands, Cape Town, world comes from the confidence to be open-minded, objective and fair, and to ask questions before making a judgement in any situation. This is possibly because my life experiences showed me I would be respected if I demonstrated such fairness, and because my own security felt guaranteed. My co-constructed data shows that I have felt empowered to communicate with people on many levels, from those in power as shown in the army with the Major and Dominee, to those with no power in society such as Willie.

We children were always encouraged to use this empowerment and privilege to do our best, but also to have compassion for others. My autoethnography has highlighted these gifts for me and I am truly grateful for it.

Code B: 'Letting go' as a portal for transcendence

Throughout the co-constructed data, there are stories where a particular action led to a transcendence of my previous understanding. Stories that demonstrate this code are the letting go of wanting my Super Rugby team to win, which enabled my undisturbed enjoyment of the superior skill of the opponent; the letting go of my belief in my inherited ethnographic world, science and religion that enabled a new journey for a defensible wreality from the age of 19; the letting go of the idea I had of becoming an engineer that allowed for the re-emergence of the idea of becoming a teacher; the letting go of my fear of dying that made me receptive to many positive experiences in the army; and the letting go of sensual pleasure and the embracing of compassion which enabled the experience of my flame self. These are examples of a transcendence of experience in some form by using the portal of letting go.

Key to this letting go is that it is not done with any form of rejection, distaste or judgement, but rather with the gesture of moving closer with acceptance, compassion and interest. Just before I saw the music dragon, my focus was on the musicians and the enjoyment of the audience. My first response to seeing the music dragon was to want the musicians to see the fruit of their efforts. Just prior to seeing the golden glow of love move around the Earth, as related in 'e and me', my attention was on an awareness of the suffering of nature and how it lovingly gave us the freedom to act in the world as we wished without rebuking us for our destructive behaviour. Prior to experiencing myself as flame, I experienced compassion for the Afrikaner travellers in the train and then, more powerfully, for the girl from my friend's 21st party. Even when my friend Francois who had passed away visited me, my attention had been a love-filled acceptance and appreciation for him. In each case, my attention was lifted towards a relatively selfless, loving, interest-filled and compassionate care for others or nature. Letting go in this selfless way seems to have allowed hidden possibilities to occur and although this is my subjective experience, it may contain seeds of a more universal application since similar expressions of selflessness are encouraged throughout all the major religions discussed in this thesis.

In the co-constructed data from my ethnographic life, this portal of transcendence is no less present. There are many stories in this study of people using race, religion and language to define themselves and others. In each of these stories the element of transcendence involves letting go of survival fears, defences, desires and attachments to a historical sense of belonging and identity and replacing them with openness and the courage to face negative consequences, while trusting in others and oneself, which then led to various positive experiences.

These stories have contributed to my wrestle for wreality by revealing a pathway to how I have bridged the knowledge of science and religion. Through my stories, I was able to see the self-imposed limitations in those who could not let go of their attachments and the consequential difficulties, like the Irishman in Jerusalem, the German volunteer on the kibbutz and the Greek barman in Athens. I also see it in

the limitations of modern science's materialism, the unthinking adoption of dogma, sometimes both in religion and the unchallenged ideas that we use to define ourselves (Kant, 2019). In each of these autoethnographic stories, I see positives arising from letting go and negatives from strong attachments.

Furthermore, the rebellious personality, artistic courage, skill and trust needed for this letting go of old ideas is what seems to give a science genius their breakthrough (Dyson, 2007; Root-Bernstein, 2011) and the religious faithful their blessedness (Holy Bible, 1611). It is what gave Einstein the fresh eyes to recognise the visible activity of atoms for the first time, when he saw it in the movement of pollen on the surface of water, despite this phenomenon having been known for decades (Einstein, 1949). It gave Heisenberg possibly the greatest moment of scientific insight of the last century when he discovered that our knowledge is limited by the nature of reality itself (Busch et al., 2007). It is what our creative, artistic and religious nature asks of us – to trust the creative process in art, Buddhist 'non-attachment', Christian 'follow me', or the Muslim and Jewish call to 'serve God/Allah/Hashem'.

In my study, I have demonstrated through my science writings and poetry that I have let go of the ideas with which I was raised in my relationship to science, religion and science education. My science and education writings and poems are the fruit of my own journey of letting go and finding a broader perspective from which to view the science content that I teach.

My love of Black folk religion (Sales, 2019) enabled me to be enriched and comforted by it. It was while I was working with Willie, my Coloured worker in the council, that I found the will to go back to university and study to be a teacher, and it was the way in which I could identify with his challenges and strength that helped. Embracing Willie as a role model allowed me to let go of old ideas of who I thought I should become and to find ways closer to that which I am, even though it came from someone whose background, life experience, colour, religion, economic-class and culture were very different from my own (Union of South Africa, 1950b).

Letting go of identifying with my Growing Self

Going through the stories I have presented I came upon the realisation that most of what I assume to be me is, in fact, just an amalgamation of fragments of myself. These fragments come from my personal experiences, family, race, religion, nationality, abilities, achievements, failings and so on. My Growing Self appears as an imposter when I believe that it represents my complete oneness. I reached this conclusion because of my sense of separation and alienation from Allness when I identify too strongly with it. Most of the early memories that I have presented here are traumatic and yet all external evidence indicates that I was mostly a happy and fun-loving child. This makes me ask the question, which memories did I use to build my conscious sense of self? The awareness of this one-sidedness and my experience of being a flame, where I felt myself to be the most whole and complete I had ever been in my life, helped me to recognise and let go of my usual identity as an imposter of complete selfhood. As a seed, however, my Growing Self seems to be the ground within which a deeper sense of self is formed.

Code C: My wreality through science and religion

My childhood lack of belief in religion led me to embrace the thinking implicit in science while adopting its self-imposed limitations of positivism and materialism. When, at the age of 19, I let go of this purely rational approach to reality because of its inability to fill my existential vacuum, I became open to having the spiritual experiences related in My Life Story. From here I became open to meditation and the spiritual insights of Steiner (1994), which led me to the holism of Goethe (1994) and Smuts (1926).

For me, my personal experience of perceiving the non-physical entity of the music dragon was deeply significant, despite recognising that it is hardly more metaphysical than the common experience of sound or light. Sensory impressions and sensory-like impressions such as seeing the music dragon appear to be formed as internal responses to external stimuli while the mind is sober within normal consciousness (Ashmore, 1989; Lamb, 2016), although the heightened emotional

state created by the music was probably an important aspect to seeing the dragon. Seeing such beings is not as commonly experienced as are the sensations of light by sighted people, but folk stories (Mutwa, 1964), fairy tales (Grimm and Grimm, 2016), and those who claim to communicate with animals (Breytenbach, 2015) and nature spirits (Weirauch, 2004) indicate that this experience is shared across culture and time. Perceiving my friend who passed away is shared by many who have had NDEs and NDLEs (Greyson, 2021), as is my experience of the world of spiritual light, warmth and blessedness On the road to my mother (Freke, 2021).

Our current scientific thinking has brought many gifts, but it has also brought enormous destructive power. It is not just in the power of destructive force in the field of war that science has an account to settle (Hancock, 1962), it is also in our application of science that has produced pollution that is destroying nature and nuclear weaponry that can destroy all life on Earth. Our domination of the Earth is mostly because we have eliminated most threats to our existence and our population has lost its balance with nature (Attenborough, 2020). Our wilderness areas contain the biodiversity needed for life on Earth to survive yet we are rapidly destroying what is left of it. Our current worldview, given as it is by science and religion, does not seem to have the strength to shift our habits away from the forces that continue to destroy it.

Some people's wrealities look to solutions that increase the land available for wilderness through our choice of food. Meat needs more farmland than vegetables, and growing technologies can be used to limit our use of land further (Attenborough, 2020), so a change to a vegetarian diet could help. Other people envisage that technology will actually enhance our abilities by us linking our brain activity to machines and that with machine learning we will become a species that is superior in thought and action to ordinary humans (Harari and Perkins, 2014). These and similar ideas of what will happen in the future are based on our current rational, scientific thinking.

If my holistic wreality becomes supported by the experiences of many others, then a new way for experiencing ourselves and outer reality could be emerging which will bring its insights for solving our current survival crisis. Our current, awake, rational consciousness has changed our world into the exciting, technology, opportunity- and information-rich, liberated environment where its thinking dominates. On the other hand, the compassion-filled flame self-consciousness that I experienced, may result in a more intimately experienced relationship with monist Allness, enabling us to find new priorities and solutions, and this could again result in an entirely new type of human life.

Through this study, I now accept the idea that beyond the highest level of evolution of Smuts's holism (1926) is the possibility of experiencing what is described as the Hindu Atman, Muslim and Jewish paradise, Buddhist enlightenment and the Christian Holy Spirit. The thousands of years of preparation for this important stage of holistic evolution have been given by the science of that time; the ancient religions and philosophies as well as the practices of Socrates, Plato, Aristotle, Taoism, Confucius and the Stoics. Perhaps Plato's analogy of leaving the cave (Oyebode, 2011) came from him experiencing such a blessed state. My wreality has identified that if we let go of our historical scientific and religious limitations, this will help to solve our crisis of meaning and hopefully our survival challenges (Mastropietro and Vervaeke, 2020). Mastropietro and Vervaeke come from a psychology and philosophy background and believe that our dualistic thinking separates the sacred from the scientific and so rejects the sacred. My co-constructed data shows that I too work towards reincorporating this sacred into my teaching. The life-changing effects of many who have NDEs, like George Richie (1991), Viktor Frankl (1985) and others who have NDLEs, like, Joe Dispenza (2019), Timothy Freke (2009), my elderly friend Nigel Ambrose and myself, is further testimony to a possible widespread awakening of our intimacy with the sacred.

Holism has as its foundational concept, the whole being greater than the sum of the parts. I experience this in the idea that my 'I' is not identical to the many manifestations of 'me' that have lived through different experiences but is rather an

idea or archetype that is greater than the sum of these 'me's. Only through the analysis of these many 'me's does the vague idea of my 'I' begin to emerge. This is again the Goethean idea of studying multiple, manifest phenomena in order to allow our creative, intuitive, artistic faculties to allow the perception of the underlying creative principle to be perceived (Von Goethe et al., 1840). This is also found in the scientific idea of trying to discover the theory that lies behind the many parts of studied phenomena, where the theory is initially hidden from our understanding. This has allowed me to subjectively recognise that the music dragon was a manifestation of an underlying creative principle from within the music, and that nature spirits are the same 'hidden' presences behind natural phenomena.

In my dream, I believed that I could fly. In dreams we often experience such bizarre phenomena (Domhoff, 2007). When we return to day consciousness, we usually reject these experiences as fantasy, but is this not an example of one kind of consciousness rejecting the validity of another just because it does not fit with its own assumptions? Are we then not doing to dream consciousness what we have done to indigenous or religious knowledge with our materialistic scientific bias? Is this how our materialistic consciousness has colonised what is accepted as reality? My wrestled wreality tells me that the reality of what lives within my dreams and intuitions has been as real for me as any outer event.

The most trusted building blocks in my wreality are my spiritual or religious experiences as related in Chapter 5. They come as facts, and my thinking later processes and makes sense of them by cross-referencing them with other information. This is exactly how science uses experimental data to build its understanding of physical reality. Both are facts to be tested and processed in relation to other evidence using our clear reasoning and thinking. Using both objective and subjective facts as equally real is an important aspect of the approach I have taken to build my holistic wreality.

It now seems to me that the reason I could not accept the versions of reality given by the adults of my youth is that I was seeking answers that superseded the cultural

attitudes, beliefs and values of my ethnographic world and particularly its assumptions about science and religion. My holistic wreality of a universal spiritual world, comprising of cleansing fire that stands as a pre-existing entity to be born into us as our Spirit Self, was not an answer that anyone could have given me. The conditions needed for the birth of our Spirit Self by drawing into ourselves and loving the nutrients of our cultural life, passing through the portal of rational understanding, and forming a non-attachment to our own lives while becoming absorbed in our compassion for others, is also knowledge that would not have satisfied me had I not had my own experiences with which to test them.

In Chapter 7, a graph of my holistic wreality will be presented which shows the greater theoretical context into which the above discussion becomes the details for the evolution from Smuts's personality to what I call our Spirit Self.

Code D: My concept of being a science teacher

My understanding of science as a worldview of exploring and testing reality in the building of my wreality seems to be extended to how I have interpreted my role as a science teacher. The feedback from my students reflecting how the learning of chemistry had personal meaning for them shows how, already from fairly early in my career, I was wanting my teaching of science to enable my students to form a personal relationship with the content while learning about it.

Science is the practice of thoroughly testing all evidence to achieve universal findings. By including the scientific ideas of Goethe, we stand to gain the underlying laws of operation of phenomena as well as the archetypal presence that stands behind the evidence (Von Goethe et al., 1840). Our current science education emphasis on exploring phenomena to find the laws with which they operate seems to be only part of what I embrace as a science teacher. In searching for Goethe's archetypal presence, as exemplified by his *Urplant*, the objectifying of our relationship to our world is overcome and a personal, religious intimacy returns. It seems that my early experiences of intimacy in nature instilled in me this belief in how we should

relate to the natural world, and it became the bedrock of my perception of myself as a science teacher.

It seems that I have taken very seriously the role of science as the current authority on declaring what is real. In trying to bring my students to experience the spirit that lives within nature as I experienced it in e and me, has led me to try many different approaches under different circumstances, including the use of metaphor, prose and poetry. The use of artistic tools in my science teaching seems to indicate that I am teaching for a different kind of science than is currently conceived, and perhaps educating for a future science?

Perhaps this future science education will be one which recognises Goethe's approach to finding the living presence within nature (Von Goethe, 2009). Heisenberg recognised that once we have studied science thoroughly, we will experience the God within that lies ready to be experienced (Schröder, 2007). Feynman expressed a similar sentiment when he apologised for not presenting his scientific findings as a poem or song which artistically expresses our inspired integration of our experience of reality instead of a lecture (Feynman, 1955). The above approach of Goethe, Heisenberg and Feynman certainly seems to be how I have wrestled with wreality as a science teacher.

Code E: Reincarnation and karma

Although there is much researched evidence that points to reincarnation (Tucker, 2008), I have had no memories of having lived previously, nor have I met anyone who has, as reflected in my co-constructed data. While doing my study, I was, however, led to a clearer picture of reincarnation in my life. I sensed this for the first time in my meeting with Anthroposophy. My experience of comfort in finding that so many of my personal ideas were shared by Steiner changed my life. I fear for what I might have done had I not encountered Anthroposophy. My complete loss of faith in everything that I had received from my ethnographic world had driven me to begin an independent search for meaning which led me to several encounters that resulted in my meeting with the work of Steiner. The recognition of a guiding

influence in my life that brought me to Anthroposophy was shared at the end of My Life Story, of Meeting with Anthroposophy through Cole Jacobs in Chapter 5, and in Section 1 of this analysis chapter.

This recognition is also in the events that led to me becoming a teacher and the fact that I interpreted them to mean this. Another person may have interpreted the two events of asking people to kiss panda and of the flying dream differently. Another person may still have been drawn to the teachings of Steiner, Smuts and Goethe but seen them as guidance to become something different.

Beyond my loving connection with my Grade 6 teacher, nothing that I am aware of from my background culture or family could have led me to wanting to be a teacher, and no one that I am aware of in my background had exposure to Steiner, Smuts or Goethe. Other than my oldest brother, I know of no one from my past who has been drawn to the work of Steiner, and my brother found out about Steiner through me. I experienced my ethnographic world as trying to guide me away from being a teacher, but something within me strongly led me into it. Passing through my related life's events, this force feels more powerful than those of my biological or cultural inheritance. My life's biography feels driven by the forces of biology and culture, of 'nature versus nurture', which are well known and accepted in current thinking about human development (Kitayama and Salvador, 2017), but it also feels driven by an inner third force. Some religious people would call this force 'God's will', and, although this seems true, it is too vague an explanation for me. I call this guiding presence my 'ghost', and although it remains well hidden to me, my ghost sometimes feels personal and close. In science we work hard to identify specific forces and not lump them all as simply 'forces', so this guiding ghost also needs more clarity and the idea of reincarnation and karma from religion helps me to find how this ghost may have formed itself over many incarnations and now acts as a background impulse-giver for my life (Steiner, 1974).

Here, we are firmly in the realm of subjective proof. The me who lived through those experiences did not know where he would end up, but reflecting on the journey now,

it seems to me that I was occasionally given a strong directional nudge in life. At the age of 19, I knew that I was experiencing a devastating lack of meaning and purpose. It was not easy to know what direction I was going but learning to let go made trusting the guidance of this ghost more possible. It is possible that this ghost is my Spirit Self, personal angel, or God, but any conjecture on this would not be useful as I have not read any text nor had any insight to suggest any particular association.

Because our complete maturation is simply not possible in one human lifetime, and because some people begin their journey on Earth with so much advantage compared to others, there needs to be an influence beyond nature and nurture to explain this seeming injustice. The maturation of any individual will help the evolution of humanity as a whole, but the full maturation of the individual would require reincarnation, and I can think of no greater justice than that those with the greatest advantage and privilege often seem to devote their compassion-filled interest and efforts to comforting and helping those who seem to suffer the most.

Code F: My possible mild autism

My childhood seems populated with traumatic memories, disorientation, a lack of self-knowledge, being continuously surprised by events and an obliviousness to the effect I sometimes had on others. When looking at these phenomena together with my dyslexia, I began to see links within my limited knowledge to a mild form of autism (Hannam, 2014). Suspecting that I may be mildly autistic, I scanned My Life Story for further indications, like my life's profound challenge to make sense of my world seen in the trauma of my first day at school, my inability to ever find meaning in my education and my inability to accept any currently accepted version of reality. My dyslexia can be seen in me not reading any book for leisure when at school and my invested effort in Grade 9 creative writing that was dismissed by my teacher. My dyslexia can also be seen in me doing my first creative writing only 10 years after leaving school. My problem-solving obsession can be seen in me doing this thesis on a riddle that has lived with me my whole life. Having not thought about autism as

an influence in my wrestle for wreality through science and religion, I had not written up any further stories that would substantiate this idea. Once the idea began to emerge, I approached my wife and sister who both instinctively felt that it could help to explain some of my behaviours.⁵⁸ I hence felt it important to include in this study.

Exploring this idea after most of this thesis was already complete, I recognised further evidence that could point to such a diagnosis, like my inability to remember what behaviours are appropriate or inappropriate in certain circumstances and singing a short phrase of music over and over again to comfort myself which resembles the disconnection and perpetual rocking of some autistic children. Confirmation of my perpetual singing and speaking nonsense in foreign accents when anxious was later confirmed by an old house-mate, my sister and my wife. I have also found it very difficult to look people in the eye and I still find this difficult in certain circumstances. My fixation with solving riddles or puzzles is yet a further possible autism indicator. I began a collection of riddles from the start of my teaching career and now also have a collection of physical puzzles. My fixation, like a basic need, with solving the disconnection between science and religion seems to fall into a similar category.

Instead of the hypo-sensory (reduced use of the senses) nature of many who are diagnosed with autism, I am hyper-sensory. This hyper-nature in some autists was made famous by the character played by Dustin Hoffman in the film, *Rain Man* (Levinson, 1988). My hyper-sensory nature was confirmed by my recollection of how astounded the medical personnel were when my hearing was tested at the start of my time in the army. Many stories that give evidence to my possible autistic nature were not presented earlier in this study simply because I knew of my dyslexia, but not of a possible link to autism.

On their own, each of these tendencies do not indicate autism, but the combination of so many is a possible ground for the diagnosis. When I suspected that I may be

⁵⁸ See the Appendix for their comments.

autistic, I had a long conversation with Emile Gouws, an autistic fellow PhD student at the University of Pretoria, who informed me that any three of these conditions could lead to a diagnosis of autism (Gouws, 2020).

Whether I am diagnosable with mild autism or not, these traits presented me and my wrestle for wreality with specific challenges. Even with these possible autism traits I should not be labelled as disabled because of my ability to function better than on the highest level, level five, of the outcome levels scale for defining disability (Landrum, Schmidt and Mclean, 1995). Level five on this scale is when the patient is able to function on a competitive level within society, but only within the scope of limited environmental and job requirements. My experience leads me to believe that not even these limitations are true for me.

My need to bridge scientific thinking and religious experience may be a further trait signalling possible autism. Creating my own framework for making sense of the world due to not being able to accept those given to me by the adults of my world created the perfect ground for me to embark on this study. If I am indeed mildly autistic, this could be helpful in understanding the wreality of some people with autism. Other autists may also experience and suffer from the experience of a profound absence of the spirit world in their cultural life. I imagine this was true in my case due to the mostly unconscious belief that something important was missing in my ethnographic world and education, and this fuelled my obsessive need to find it.

Section 4: Addressing the research questions

[Back within the WWA Commentary Box for the final time.]

Host: Having looked at your co-constructed data from several angles now, what is your understanding of how you wrestled for wreality?

WW: I wrestled for wreality by asking some really hard questions and not allowing myself to be easily satisfied with any single answer or any isolated bits of evidence.

These questions arose from my personal experiences where the stock answers to be found from my ethnographic world, including the ideas from its science and religion, did not satisfy me. The evidence needed for a satisfying answer required that I search for and consult multiple sources, almost all of which were actually available in bookshops a few kilometres from my home in my ethnographic environment of Newlands, Cape Town, but just not embraced or even known by me or those with whom I grew up.

At around the age of 19, I took charge of my own wreality and from this time I soon found many of the sources that I still use to help me in my ongoing wrestle for a holistic wreality. This turning point included a change where I truly felt that life was not worth living if I could not find a deeper meaning in it. This preparedness to die seems to have enabled my wrestle to take a liberated earnestness to find meaningful substance in different cultures as well as ideas that I would have rejected out of hand had I remained attached to my inherited world. My change in wrestle began a path towards finding a new relationship to science and religion, and an opening to engage with people whose identities are closely bound with science and religion or other ethnographic elements. It also enabled me to change the course of my professional life from engineering to education, something that made my working life deeply meaningful and gave substance to my wrestle as a science teacher.

The scientific method of testing all things and building on those that passed my multiple tests has been the ground of my wrestle for wreality. The holism of Smuts (1926) and Goethe (1994) as well as the writings of Plato (1966) and Steiner (1999) have all been examined in this way. This rigorous testing was also applied to many assumptions that I had adopted about culture, education, science and religion. This led to my understanding at the start of this study of the need to separate the practice of scientific thinking from the materialistic and reductionist assumptions of current science, and, in religion, to separate the cultural practices and identity attachments from the fundamental spiritual maturation impulses for individuals and society.

In this way, my wrestle seems to have incorporated an almost rhythmical pattern between finding some new idea or insight, examining it to its limits, and then back again to find a new experience or insight with which to test it. Similar to the budding and sprouting process in plants, my wrestle has grown my wreality step by step, forever deepening and broadening it. Sometimes these new experiences and insights have been through portals into new and blessed experiences, while some have been the encountering of experiences or writings of others. By retaining an earnestness in my wrestle, I believe that I have been open and ready to use any portal when it presented itself.

I also believe that I must have missed many portals on my journey simply because I was not looking for them or was not sufficiently prepared to have the experience. Examples of possible places where portals that I would have missed could be, relate to the cultural, political and economic spheres of life. Science and religion have both been shaped by these powerful influences, and by not engaging with them I will surely have overlooked some significant learning and insights.

As my confidence in my wreality grew, my wrestle changed from a desperation to a more settled phase of fine-tuning and finally of wrestling to find ways of expressing its ideas in an acceptable way in life and the science classroom. My science writings and poetry have been some of my later attempts at this, and this thesis is the expression of my current wreality.

Host: And why did you wrestle in the way that you did?

WW: My early years of being in love with nature and being financially poor relative to my school friends led me to value a life free of fancy things. My family's later wealth led to the privilege of never lacking anything material or educational. In no part of the co-constructed data is there any mention of me experiencing any outer deprivation. Even in the army, where my outer freedom was removed, my stories show that I was still given a voice.

My home and ethnographic world contained many different and often conflicting worldviews, and I needed to make sense of my fragmented experiences of the world. A lack of cohesive identity or belief in my parental and cultural background would have been a strong driver in why I felt such a strong need to create a holistic wreality. My inner confusion and difficulty in understanding myself and the culture in which I grew up quite probably increased my interest in different cultures as shown in my many stories as well as in steering my focus onto the more inner challenges of life. My inner confusion and lack of being able to find meaning in my life possibly became the main reason for why I have wrestled for wreality in the broad and earnest way that I have.

My discovery that I am probably mildly autistic with a bit of an obsession for solving problems certainly seems significant. It helps explain the deep pain and confusion in not finding meaning for much of my early life and particularly of my time from the end of my schooling until I left the army. This mild autism could also explain why the answers of my inherited world could not satisfy me, as I was simply seeing the world from a different perspective. It may also explain why I have doggedly pursued my wrestle for a holistic wreality over so many years and why I started this thesis roughly 36 years after first taking my life's wrestle into my own hands. My natural ability in reasoning and logic as shown in my consistently good results in mathematics and science and my challenges with written language is probably why I used a predominantly scientific approach in my wrestle for wreality. Somehow, since taking my wrestle into my own hands, my limitations became less restrictive, which is why reading and writing could join my wrestle.

My wrestling as someone who is prepared to die as the ultimate form of letting go is also part of why I wrestled in the way that I did, in that my desperation for a meaningful and defensible wreality was not just a curiosity, but a foundational need. I wrestled with the ideas of science and religion because of their status in society and because their separation left an unnatural and fragmented picture of reality, something which I intuitively felt to be false. This could also explain why the monism

of Hinduism, Smuts (Smuts, 1926) and Steiner (Steiner, 1999) appeal so strongly to me and feature so centrally in my wrestle.

I believe that my flying dream and my wish for people to kiss my panda were personally meaningful expressions of my ghost, the bearer of my inner force of ideals that had always been guiding my life path. My ethnographic experiences then seem to have been intuitively synthesised into the belief that I would be able to manifest these ideals as a teacher and not an engineer. In turn, my wish to bring an experience of this monistic, holistic reality to my students became the reason why I started teaching using imagination and metaphor as well as writing science poetry and stories. It seems that a big reason for why I have wrestled in the way that I have has been in order to give ever-improving expressions to this inner force of ideals that I associate with my personal ghost, and I am certain that my wrestle is nowhere close to complete.

Host: With such a strong focus on religion and science, why did you express your wrestle as an autoethnography?

WW: At various times in my life, I have counted among my closest friends Jews, Christians, Muslims, Hindus and atheists as well as Black, White, Coloured and Indian, English, Afrikaner, Xhosa, Ndebele and Zulu, as well as some who are young, old, rich and poor. It is not as though I am unaware of the different wrealities lived by each friend, it is that I have always been more interested in how people live with their circumstances and themselves. It is this seemingly universal human need for each Growing Self to develop a meaningful wrealty which draws me to an ever-growing number of people, and one of the current academic ways to study individual lives is through autoethnography.

We all use our ethnographic background as the context and ground for growing our wrealty. It is the gifts and absences from our individual ethnographic worlds that shape why and how we wrestle for our wrealities. It is also my appreciation of aspects from multiple backgrounds that enabled me to see the hidden, inner gifts of

all ethnographic worlds as being the seed-ground for our spiritual birth in the Farewell Vision.

Host: Your personal finding that you are possibly mildly autistic is interesting and I am sure has been helpful to understanding yourself better. Should your findings of your personal ghost and the new possible addition to our consciousness of the Spirit Self be accepted by many, how would you see that they could affect modern education?

WW: My wrestle for wreality being partly explained by a mild autism is really helpful. In hindsight, I think that I have not recognised it before because I have never taken the time to reflect on my life in the required way. It was only towards the end of this autoethnography that I was able to make this finding, so it was clearly not something that I had ever considered before. If it is true that we all have a Spirit Self ready to manifest within evolution, then education should take seriously the steps that could help children to allow for its healthy birth. In science education we work very hard to enable our students to develop the right kind of thinking to understand science. Shouldn't we then do the same for birthing our Spirit Self?

Host: Thank you, I think that is enough for now. I will ask that you please answer your final research question on how this study can be useful for science education in Chapter 7, as it will be more suitable in that context.

Thank you.

[We now take leave of the WWA for the final time.]

Conclusion

Three levels of ever-deepening analysis of the co-constructed data were presented which were then used to address my research questions as the final step in this analysis chapter. The first level of analysis was a general analysis of the stories presented in Chapter 5 and this opened up several themes and codes of my wrestle for a holistic wreality. The second level of analysis traced the path of this

autoethnography around the Concept Map of Autoethnography, which led to the idea that this study may possibly best be described as a holistic integrative transcendental autoethnography. The third level of analysis was to list and describe six emergent codes from the co-constructed data and first two levels of analysis.

The final section of this chapter used the earlier analysis to respond to the research questions of this study. The reasons for my wrestle for a holistic wreality through science and religion were seen to be founded on my need to make holistic sense of my fragmented background as well as my possible mild autism in that my experience of life until the age of 19 was confusing and disorienting and I could not accept the worldviews of others. The way in which I wrestled for wreality changed at that point because I had found a framework to begin giving a personally meaningful context to elements of my ethnographic world, including the worlds of science and religion. This new framework seems to have enabled me to take my life-guidance more directly from the driving force of personal ideals given by what I call my personal ghost, which led me from studying engineering to studying education. This change took my studies from the pure sciences to include aspects of the humanities. As a science teacher, I tried to reconcile the science content I was teaching with the young, often religious minds that were needing to receive it. This in turn seems to have led me to using imagination and metaphor initially, then to writing science and education poetry, and now, to doing this research. My ghost, as the bearer of the driving force of ideals that I began responding more directly to from the age of 19, therefore becomes a primary figure in the why of my wrestling for a holistic wreality and my possible mild autism becomes more associated with directing how I wrestled for wreality.

Chapter 7

The final wreality of this thesis

Introduction

I began this thesis by positioning myself as a science teacher who writes science poetry. My background of growing up Jewish in the liberal southern suburbs of Cape Town offered me a stable and secure world in which I was given the privileged foundation to become anything that I wished. Unfortunately for me, that background was not compatible with that which welled up within, so I embarked on my lifelong wrestle for a wreality that made holistic sense to me. This wrestle was not just a passing interest, but an existential need for me to gain a greater context behind the worldviews with which I was brought up. This wrestled wreality was engaged as a science teacher who creatively tries to find a meaningful relationship between science, religion and my personal experiences; this led to me writing science poetry. The developing journey of this wrestle was presented in Chapter 5 and most of its fruits were presented in steps of ever deepening analysis in Chapter 6.

Chapter 6 concluded with addressing the research questions on the how and why of my wrestle, as the expression of my research purpose of autoethnographically analysing how successful I have been in creating a holistic wreality through science and religion within my ethnographic world. The final research question on how this autoethnography can inform future science education for myself and others is addressed in the section that presents my wish for future education in this chapter.

This concluding chapter will initially reflect on the contribution of each chapter in achieving the intention and purpose of this research. Following this are reflections on my thesis methodology, my thesis statement – which presents what I believe the contributions of this thesis are – and my personal and professional experiences. The sections on my wish for future education and research, and the limitations of this study, are presented in order to formulate suggestions for wrestling with religion, education, science education and future research. This chapter and the thesis will

conclude with a final expression of what I wish the reader to take away from this study.

Chapter by chapter review

Chapter 1 laid the foundation for this study by presenting my childhood, youth and adult background as a science teacher and parent. Having positioned myself within this background, I presented my need for a lifelong inner wrestle to create a form of security beyond that which my ethnographic world offered, and one which holistically included the impulses which welled up naturally within me. That which welled up within me was to make sense of and contextualise the ideas of my ethnographic world; of the cultures and religions which seemed to underpin the reasons adults gave to justify their world. Even science, which filled this need during my teenage years, lost its acceptance when it failed to address my most basic needs for meaning in life at the age of 19. This foundational context gave the justification for using autoethnography as the research methodology of my wrestle for wreality.

In order to clarify my use of the concepts in this research, I presented my perspective on science and religion. This led to me defining and emphasising the need for objective and subjective proofs to overcome what I perceived as the one-sidedness of both science and religion, and to form my holistic wreality. I am grateful for having recognised the equal value of subjective and objective proofs at the start of this study. In many conversations about my study, people have asked me with concern, 'Isn't your study overly subjective?', as though this may invalidate it. In response I could then say, 'Isn't science currently overly objective?', enabling a conversation about how we tend to undervalue our subjective experiences. In my soul, I found that the balanced valuing of objective and subjective proofs fed nicely into balancing how science and religion contributed to shaping my holistic wreality.

I have not experienced any gaps in how Chapter 1 served as the firm foundation for this study and I am satisfied that it has served its purpose well.

Chapter 2 presented the theoretical framework of this study as a holism that combined the scientific approach of Goethe (2009) and the holism of Smuts (1926). I initially only wanted to use Smuts's idea of the evolutionary development from energy, through matter and life, to mind and personality as my theoretical framework. Having recognised that in Smuts's holism we have an evolution from energy and matter that are studied in science to mind and personality that are addressed in religion, I was satisfied that Smuts's holism would form the bridge between science and religion that I believed this study required.

Goethe demonstrated his scientific approach of gathering a broad range of phenomena and allowing his artistic intuitions to build a transcendent holistic impression of the subject from them with his concept of the *Urplant* (Von Goethe, 2009). I felt that this practical approach was also needed within my framework to build my holistic wreality between my subjective intuitions and the objective facts of science. My choice of theoretical framework sustained this study without the need to move beyond the ideas presented in Chapter 2. For most of my study, I held the Smuts and Goethean whole-building approaches as separate tools that worked side-by-side.

In the last months of this study I realised that a Smuts and Goethe partnership can be used to form a graph of my holistic wreality. The graph of my holistic wreality is shared as my Holism Evolution Graph in my thesis statement contribution to academic theory. This graph contextualises my holistic wreality of science, religion and autoethnographic experiences. That both subjective and objective proofs are accommodated by this framework gives me firm ground to accept that my choice of theoretical framework matches the intentions of this research perfectly.

Chapter 3 reviewed the researched literature on the many concepts that were needed to background my autoethnographic stories in Chapter 5. Researching the wide-ranging ideas within my autoethnographic experiences began with an exploration of how we use our senses to gain knowledge about our outer world. I initially began Chapter 3 with a 20-page exploration of how optical illusions show

the many subtle operations of body and mind required to make sense of our visual images. I did not include this exploration because it was just outside of the focus of this thesis, but it did serve to show how complex and layered our skills need to be to make sense of what we see. The study of optical illusions would have been a metaphorical picture used to understand why it is necessary to cross-reference all knowledge and experiences to make a sensible and defensible wreality. The triangulation of personal experience, religion and science in this study formed a suitable substitute for this metaphorical picture.

I am satisfied that the researched ideas of near-death experiences, reincarnation, synaesthesia, mirror-neuron activity and those who talk with animals and nature spirits were all needed because they enabled me to understand or contextualise my personal experiences related in Chapter 5. The earlier critique of religion and the critique of science that followed in Chapter 3, formed the background for how I needed to modify the current widely accepted dogma of religion and materialistic assumptions of science for them to communicate harmoniously in my developing holistic wreality. The critique of science education formed the background for the presentation of my science poetry and my relationship to education as a whole.

The discussion of reality demonstrated that there are at least as many approaches to reality as there are university subjects, but that these approaches can be condensed into categories that deal with the areas covered predominantly by objective or subjective proofs. Reflecting on the scope of literature that was reviewed, I am satisfied that the relevant context and background of the ideas needed for this research were covered.

I believe that the literature of autoethnography and autoethnographies of science teachers covered in this chapter was sufficient to give a background to this autoethnographic study. I would, however, have liked to have found more studies done by science teachers who wrestled with the curriculum from a religious, indigenous or philosophical perspective (Kimmerer, 2013). This section of Chapter 3 showed a gap in the literature related to science teachers not wrestling with the

science content that they teach in relationship to religion. A further gap in the autoethnographic literature of science teachers from my White, English-speaking, southern suburbs Cape Town background was also established.

Chapter 4 presented the research design and methodology of this thesis. This current qualitative research was contextualised within a subjective, interpretivist paradigm because it sought to explore my personal wrestle for a wreality that is not of a universal, measurable or objective nature. The nature of my reality and hence this research accepts that reality is something that is created individually with a personal intimacy and connectedness, hence my positioning of this study within a relativist, indigenous or religious ontology.

After roughly 200 days of researching the literature on the methodology of autoethnography, I created the Concept Map of Autoethnography. This concept map made me feel confident to be creative and playful in my approach to my data presentation and analysis, as it enabled me to contextualise and visualise the autoethnography research field. As a result of this feeling of freedom, I allowed myself to create the Wreality Wrestling Arena, a presentation theatre that I believed would be suitable for my wreality wrestle. In this arena, I could present my lived experiences as the character of Wreality Wrestler and analyse these experiences in the researcher role of the Host while seamlessly including all the performative elements of creative writing, narrative, reflexivity and verisimilitude through self-interview and invited guests. The experience of doing my research in the arena felt very comfortable and enabled me to present or demonstrate a broad range of the teaching strategies that I use in the science classroom to engage my learners' scientific and religious thinking. I am unable to think of an alternative approach, despite having considered a few, that may have felt more natural to me or have worked better.

My research methodology as an autoethnography enabled me to present my wrestle for wreality in the first person, where the elements of science and religion could be positioned side by side with my personal life experiences. My creative use

of Boal's theatre of the oppressed (Cohen-Cruz et al., 1990) enabled me to journey to an idealised metaphorical environment within which the Wreality Wrestling Arena was positioned and within which I could present my story. The choice of both the Wreality Wrestling Arena and the metaphorical land that I created made it easy to tell my story in a manner that felt authentic and natural. Even the use of the Commentary Box for analysing the data felt natural and conversational in a manner that felt open, challenging and honest. I am really pleased with my choice of research design and methodology as I believe that both the presentation of data and its analysis served the purpose of this study very well and were as personal and thorough as I had intended.

Chapter 5 presented my autoethnographic co-constructed data and creative writings. I reflected on why I created a metaphorical land within which to present and analyse my co-constructed data. My initial thought was that I simply needed to create a world where I would be totally at home and not need worry about my data being ignored, mocked or judged. In my metaphorical land, I created the rules for what are acceptable ways to live and think and where my wreality would be openly accepted and even celebrated.

My choice to create my metaphorical land could, however, be due to fear of rejection or judgement from within my ethnographic world for presenting experiences that could be considered signs of me being 'different' or even unstable or insane. The theme of rejection runs through many of my stories, such as me rejecting my ethnographic world's interpretations of religion and science; me being judged or rejected for various aspects of my inherited identity; and having been briefly disowned by my father because of my religious beliefs. My creation of this metaphorical land could also have been to cushion fears of rejection from some of my childhood friends who have successfully pursued a life of wealth and status, the Jewish world to which I remain connected, the Christian world within which I live, or from the science education world within which I teach.

Chapter 6 analysed the co-constructed data in the successive steps of an open-ended exploration by tracing the path of the data across the Concept Map of Autoethnography, identifying the emergent codes or themes within the data, and finally, addressing the research questions posed in Chapter 1.

Although it required a lot of work to give Chapter 6 the logic and structure that it has, each step of analysis gave ever-deeper insights into my autoethnographic wrestle for wreality. The integration of most aspects of my holistic wreality presented in the Holistic Evolution Graph in Chapter 7 was only possible because of this stepped distillation of the data. This approach yielded many unanticipated findings including: finding a new sense of gratitude for my family, friends and ethnographic world when growing up; identifying the process of letting go as a portal to new types of experiences; my application of letting go in enabling experiences that expanded my wreality; noticing hints of my ghost as an inner force guiding my life-wrestle and life-path as a picture of karma and reincarnation; and the many small and big signs that pointed to me probably being mildly autistic. These codes or findings fed into addressing my research questions that identified my current wrestled wreality as well as how and why I wrestled for my wreality.

In Chapter 7, I address the final research question on how my wrestle could impact on science education under the heading of, My wish for future research, education and the teaching of science. I cannot imagine that a less natural and spontaneous analytic process could have given anything more personally significant, but, as no alternative process was followed, possibly a lack of imagination has resulted in these limited findings. I am truly grateful for the findings that my choice of analysis has offered.

Methodology reflections

Using autoethnography as my research methodology gave me great first-person research freedom. Part of this freedom was demonstrated in creating an alternative world where I felt a full empathic resonance with its inhabitants and the way that they live. This metaphorical world contained all the challenges, ideals and beauty

that reflected my wreality at the start of this study and makes me want to dance and sing with all my heart in the mutual enrichment of self, other and world. Had I not embarked on this study, I would not have challenged myself to identify so many aspects of what expresses my ideal ethnographic environment, which, in turn, would possibly not have led to as much growing clarity in my holistic wreality. I am truly grateful for having used autoethnography to undertake the challenge of creating such a land for this thesis. Had my actual world resembled this ideal land, my life's wrestle would possibly have been undertaken with less of the existential anxiety described in Chapter 1. Perhaps then, this study would not have taken place at all and I would now be a mechanical engineer.

This reflection points to how my autobiography and ethnographic worlds wove their story together to create my autoethnography. While doing this autoethnography I have been moved to the depths of love and compassion while having also retasted despair and anger that I thought were long gone. During my years of work on this study, big and powerful experiences as well as thoughts from science and religion have had intercourse. The offspring is my firm belief that we are currently building the solid foundations for a new type of human life that has as big a leap in consciousness from our current one as the difference between human and animal consciousness.⁵⁹ My wreality is that our Growing Self is still too young and immature to withstand the driving power and temptations with which our authentic or Spirit Self will be assailed should it be born prematurely, as I believe took place in my own case in, *On the road to my Mother*, and yet it seems to me that sparks of this birth have been occurring for several thousand years. Buddha's enlightenment and Plato's probable experience outside his metaphorical cave are perhaps the beginnings of the birth of this Spirit Self (Kornfield, 2012; Oyebode, 2011). It is only through undertaking this study as an autoethnography that I was able to engage with so many personally significant thoughts such as our future evolutionary

⁵⁹ There are many people who think that our human future evolution is predominantly seen in humans who control machines by linking them into the brain as machine-human 'cyborgs' (Eagleman, 2015, Harari, 2014), but this is not what I am referring to here.

potential. This experience convinces me that an autoethnography was the correct choice for this study and for any study that wishes to present the lived inner-life experiences in relation to the outer conditions that shaped them.

Like Plato's examined life, this autoethnography formed the perfect tool to enable me to now debate the limitations and merits of my wreality with scientist and believer alike, believing that I have embraced the essence of both while being able to identify what seem to be their shadows on the wall of Plato's cave (Oyebode, 2011). I have also come to see a third influence in the nature–nurture debate on the influences that have shaped my life in the form of my personalised ghost. This ghost is possibly the reincarnating being that gives us pointers for our life direction so that we can grow from incarnation to incarnation to prepare our Growing Self for the manifestation of our Spirit Self into earthly evolution.

By abandoning all conventional understanding of reality, particularly the limitations of my ethnographic background, scientific materialism and religious dogma, while embracing objective and subjective proofs, the portal to a holistic wreality opened, which, despite being a work in progress, is one that makes total sense to me. The advice of many, like Kant who advised humanity to apply reason to religion (Kant, 2019) and Smuts who challenged science to address matters of the spirit (Hancock, 1962), have been beacons of light and strength on my journey of building a bridge across the apparent divide between science and religion.

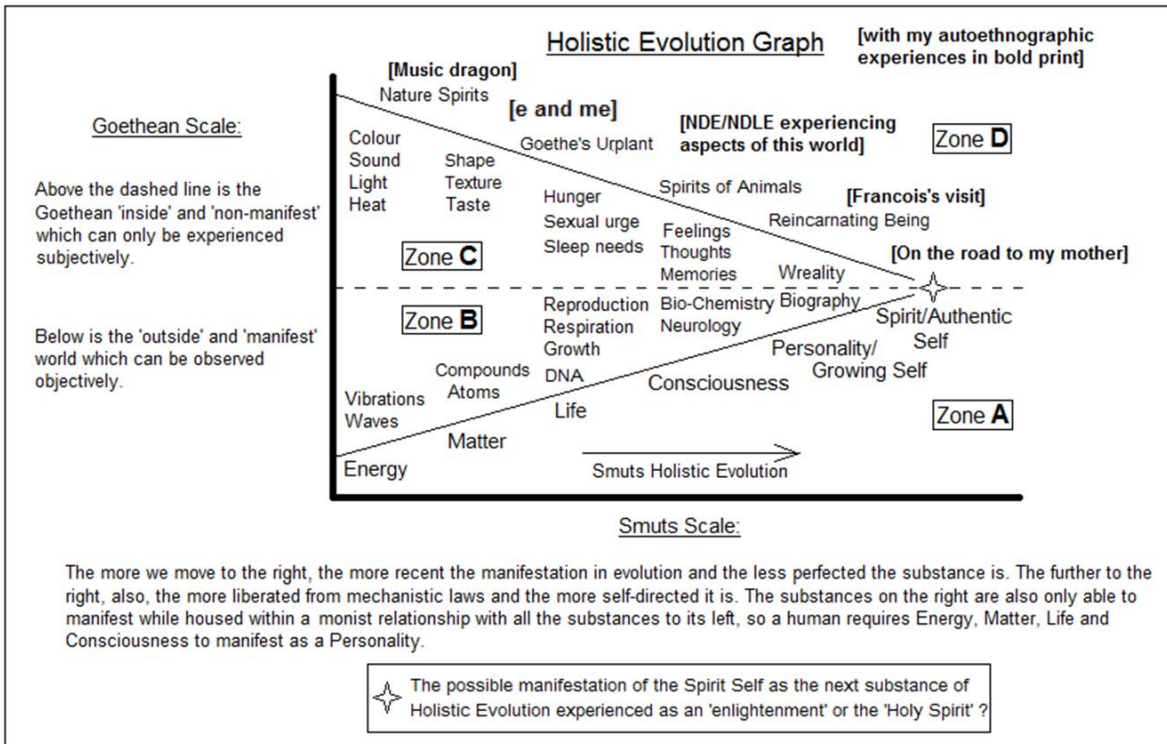
Thesis statement

I began this thesis by introducing the concept of wreality as a word to represent the internally constructed microcosmic reality that each person develops for themselves during life. This concept was thoroughly and consistently used in this thesis and I am more than satisfied that it makes referring to a personalised reality very simple and relevant. I used the concepts of subjective and objective proofs to show how both are needed to construct a thoroughly cross-referenced wreality that can be defended in the light of both science and religion, and I believe that undertaking this thesis has enabled me to achieve just this for my wreality.

I believe that a great contribution of this thesis can be seen in my development of holism as a theoretical framework for contextualising many aspects of reality as expressed in science and religion. The holism that forms the backbone of my theoretical framework for this study is the combined holism of Smuts (1926) and the Goethean idea of the intimacy between the 'inside' and the 'outside' (Von Goethe, 1994). In the last year of this study, it occurred to me that this holism can be represented on a graph as shown in Figure 7.1 below. The key thought that awoke this realisation in me was the idea that there may be an UrPhilip or personal ghost that gives me guidance through powerful dreams and inner impulses. As a reincarnating being, this UrPhilip evolves through guiding different people through life at different times, of which I am the latest. This idea signalled for me that the unmanifested UrPhilip is possibly working to manifest as the next level of Smuts's evolution and that this human aspect of a Goethean archetypal inside is, perhaps, soon to become outwardly manifest within Smuts's evolutionary scale.

The Great Festival in 200 Days at Sea had the world of angels descending onto the manifest world below, and this morphed into the Farewell Vision of the life under the soil and the awakening of human beings to an experience of the spirit world above. This spirit world of angels within which I believe the Urself lives, became apparent to me in e and me in a generalised form, and then more powerfully and personally On the road to my mother. With my personal experiences and ideas from religion, it occurred to me that the Christian, being born of the spirit (Holy Bible, 1611), could be just this incarnating spirit, and that the path of all of evolution has, in fact, been a gradual coming closer of spiritual and physical reality.

Graph 7.1 is my current artistic, scientific and religious conceptualisation of this evolutionary process as an expression of my wreality in progress. The dashed line divides reality into the Aristotelian category of matter below and his metaphysics above (Aristotle, 350 BC). Popper would place this graph in his third world as a fruit of human processing, and his first and second worlds would probably be Zone B and Zone C respectively (Popper, 1979).



Note: Where words on the graph are vertically aligned they correspond to the Smuts substance below. An example of this is the Smuts substance of energy manifesting as vibrations and waves which physical science can measure, as sound and light that humans and animals with functioning senses can experience, and as nature spirits that people with developed capacity can experience.

- Zone A: The Smuts substances of holistic evolution. The Spirit Self is what I see as the next substance to manifest into evolution. Buddha's enlightenment would be an example of this.
- Zone B: The evolutionary manifest realm that physical science can currently detect and study.
- Zone C: Metaphysical experiences directly related to events in Zone B which can be experienced by all who possess healthy senses and an awake inner life, but which are increased and enriched through education and personal development. An example of this is the light that passes through the portal of the eye to give rise to mental images, then these mental images pass through the portal of thinking to bring about understanding.
- Zone D: The realm of religion and spiritual experiences experienced by those who use certain portals of perception, possibly those described by Goethe, to experience his *Urplant* (Von Goethe, 2009), and those described in the major religions.

Figure 7.1: The Holistic Evolution Graph of my current wreality

The dashed line separating Zones B and C denotes the often-unrecognised difference between these two zones in human experience. The solid diagonal lines indicate a clear distinction between these zones for most of current human experience. Aristotle's metaphysical world above the dashed line can also be seen as Goethe's inside. This inside is divided into metaphysical experiences that we are all familiar with in Zone C and those which belong to religion, indigenous knowledge and fairy tales in Zone D as a world filled with non-manifest, archetypal beings, love-filled cleansing warmth and enlightening light. Both Zone C and Zone D require subjective proof. Zone B represents what we can currently study with physical science.

My monist holism tells me that these zones are not separate but are in a relationship of intimate oneness even though it requires different human faculties to experience them. The meeting point of the three lines on the graph is possibly where the next Smuts substance, our flame or authentic or Spirit Self, will become manifest in Earth life. What happens after this manifestation is unknown. A common religious idea from my ethnographic world points to us heading off into a Zone D heaven, enlightenment, paradise or nirvana in some form. My experience On the road to my mother, makes me believe that we will continue with our evolution here on Earth in some form.

An important addition to what enables the evolution of Growing Self to birth the Spirit Self is the finding from my autoethnography described in Code B of Chapter 6 which I describe as the process of letting go, of Buddhist non-attachment (Thorp, 2017). My autoethnography also guided me to believe that a compassionate inner liberation from our autobiographical and ethnographic world may be required for this birth.

The many portals of perception required to experience the aspects of each zone have not been explored on this graph but should not be overlooked as a knowledge of portals would be relevant to creating a holistic structure in education. Mirror

neuron activity and synaesthesia also seem to play a role in enlarging the scope of our subjective experiences within holistic education.

A further contribution of this thesis to academic theory is the Concept Map of Autoethnography. I am a visual thinker, as is shown in the fact that I have developed visual representations of my holistic wreality in figure 7.1 and in the Concept Map of Autoethnography in Figure 6.1. Having developed and tested the concept map in this study, I am convinced that other autoethnography researchers will be able to use the map for creative purposes of their own should they so wish. I am certain that the map will need personalised changes to become a useful tool for application in further research but am pleased to be able to offer a starting visual representation to the exciting and powerful research field of autoethnography.

My methodological contribution of the Wreality Wrestling Arena and my use of Boal's theatre of the oppressed (Cohen-Cruz et al., 1990) was discussed earlier in this chapter. My liberal use of voices from the literature and my co-constructors in the analysis of data in Chapter 6 has been shown previously by Denzin (2018), but I believe that my research use of this approach adds to its application in autoethnography.

My most personal contribution to academia is my wrestle for wreality from within my particular cultural and ethnic background as a science teacher. Although some science teachers have wrestled with the science curriculum in relation to their indigenous knowledge (Kimmerer, 2013; Nhalevilo, 2010), I am certain that many religious science teachers will benefit from knowing that such a wrestle is not just valid, but enormously strengthening. My many varied encounters with race, empowerment, status, language, age, nationalities and educational practices is due to my life's circumstances and context. I doubt that my rich exposure to so many situations would have come my way had I been born and raised in any different way. Most significant for this research are my many experiences with religion, science and education. These experiences have enabled my autoethnography to

present a particular perspective on these elements as one individual's wrestle for a holistic wreality through them.

Hopefully, this study will lead to a contribution for education and for science education in particular, my wishes for which follow after my personal and professional reflection.

Personal and professional reflection

A feature that stands out for me from my study is how my wrestle for wreality has changed over the course of my life. What began as a need to not be so consistently disorientated by my life's experiences, turned into an internalised need to become a teacher and take my own wrestle for a holistic wreality in hand. By the age of 20, having found the works of Steiner and having had a few significant spiritual experiences, I felt that I had a strong and trusted enough frame of reference to wrestle with science, culture and religion, and to begin creating a meaningful framework in my own wreality. The building of my wreality as a work that is always in progress is a process that continues.

A truly significant finding within this research for me is the discovery of my guiding ghost and its role as a driving force of ideals in guiding my life as a possible karmic influence from reincarnation. Reflecting on my childhood and university years, I can see how my inner ghost remained an invisible attachment that I could not see but somehow felt. It was standing within me in many situations. I can also see how the ghost of each of my close friends was standing with them, for better or for worse, and how many of us really wrestled to allow our ghosts a living place in our biographies. While doing this autoethnography, I have had moments where I can almost see my ghost, and I experience this as a very special thing. Through my years as a science teacher, I have seen how each student seems to wrestle in finding a way to manifest their ghost, and that the cultural and ethnographic worlds in which I have taught have not always been conducive to helping teenagers do this easily, leading to enormous distress in many of their lives. This leads me to believe that the finding that I have my personal ghost is not particular to me, but that all

people have such a ghost. It seems that autoethnography was perfectly suited to make me more conscious of my relationship to my ghost. I am grateful to those who developed autoethnography as a gifted research methodology for all of us to explore our own wrestle for wreality.

The idea that the next level of holistic evolution is the addition of the Spirit Self substance also feels significant. If we imagine the enormous difference between the consciousness of plants, animals and human beings, this will probably give an idea of the enormous difference that I experienced with my flame or Spirit Self. That I am probably mildly autistic is also an impactful finding that initially really shocked me as I had never thought of myself as anything other than 'normal', whatever that might mean.

Now putting My Life Story at a bit of a distance from me, I am beginning to feel how my negative attitude towards becoming a teacher when I was in my matriculation year was one that I had adopted from my home, school and friends. This negativity was despite the fact that I had clearly expressed a wish to teach at earlier stages in my life. This shows that some inner conflict must have been at play, but that this conflict had resolved itself into an adoption of my ethnographic worldview guiding me to become an engineer by the end of my matriculation year. Professionally, I can see how being a teacher has brought me so many rich and varied experiences with so many children, adults and cultures. These experiences have immeasurably enriched the experiences that I have had needed to build my holistic wreality and to understand why I continue to wrestle for a holistic wreality through science and religion as a science teacher.

I find it significant that perhaps my adoption of a materialistic and scientific worldview in my matriculation year had made me unaware of my ghost. Perhaps I should blame my ethnographic world for the immense suffering that this brought upon myself and my friends, but, in hindsight, I realise that my parents and the adults of my youth really did not know any better. I suspect that they did not know how to understand us or were ignorant of the fact that we even had such inner

needs. So, despite having had long periods of hatred and distrust for the adults and cultural influences in my life when I was younger, and despite the anger which still occasionally rises into strong, violent outbursts at the violation of life that I believe still exists strongly in the world, I truly believe that the adults did not know any better. They were as blind to us and our ghosts as I was to my own, so how can I accuse them for a fault that I now see so clearly in myself.

My wish for future research, education and the teaching of science

Much of our current education in South Africa seems directionless to me, as expressed in my two poems on education in Chapter 5. It seems to me that having no real idea of what the developmental needs of present humans are, the competitive pressure for students to achieve acceptance into universities and places of higher learning has placed our educational focus on students achieving good academic results. This has led to a strong emphasis on mathematics and physical science education because these are the gateway to many professions that offer jobs, money and status while providing a needed service to strengthening South Africa's economy.

This educational focus on mathematics and science is something that I support strongly, not only for practical reasons, but also for specific developmental reasons. The logical, rational, objective thinking needed for science and mathematics empowers us to liberate ourselves from an unthinking, inherited relationship to life. These mental tools naturally lead some people to challenge the assumptions of the cultural and religious practices in which they were raised, and this can be a scary experience for the individual and those closest to them. These very tools led me to my existential tension of believing that if I followed the life-path that I intuitively felt welling up within me from the guidance of my personal ghost, I may be rejected by my ethnographic world. For this reason, it seems important to educationally enrich the development of these personally liberating tools with the intimacy of indigenous and religious feeling.

To me, in the teaching of science, this need for religious feeling seems particularly important. As seen in my autoethnography, religious feelings of reverence, selflessness and compassion seem to also be needed for the maturation of our inner life to make us more ready to receive the possible next level of our evolution. Perhaps Heisenberg is right in his sense that our initial immersion into the sciences will make us atheists and that only once we have plumbed its depths will we again find God (Schröder, 2007:12). The need to address the alienation effects of science education has been widely felt, and some people have used indigenous knowledge (Kimmerer, 2013) or a study of the Nature of Science (Forsyth, 2017; Kuhn, 2012) to address this dilemma. I suspect that we can facilitate this regaining of meaning by enriching our relationship to the physical world through imagination-filled, heart-awakening and metaphor-enriched poetry, stories (Winston, 2019) and other arts in the science class.

Opportunities for rich learning arise when we consider the evidence of our outer-world investigations and inner-life experiences as valid data with which to build our wreality, and when we no longer look at the clear, rational thinking of science and the heart-felt, artistic and dreamlike imaginations of religion as irreconcilably separate worlds. Religious texts contain truth and wisdom and have guided the healthy development of humanity for thousands of years. These texts can be helpful in developing healthy habits, attitudes and values which, in turn, help us to see a greater depth and meaning in reality and even help develop new scientific findings (Dimitrov, 2010). Religions contain information about the healthy development of personality which, on Smuts's holism evolutionary scale, is the current level of evolution (Smuts, 1926). This is particularly true for the science classroom, where the development of specific and important types of objective observation, logic and practical thinking are trained. If we give more attention to the mental and spiritual significance of developing our cognitive or mental skills in combination with observational skills, religious and indigenous students may experience the subject as more relevant to their personal development. Context in education is important and if we can give students multi-layered reasons why they should work hard at

science they will have more courage to endure the academic challenge it often presents (Nietzsche, 1996).

Science stands to benefit from the practices of religion in learning how its own insights are generated and would do well to train these skills in science students. Governments want to see good matriculation results, but mostly because they want to see their country's technology and industry benefiting from its scientists (Mirkin et al., 2020). Training in ways that improve personal, artistic, religious and scientific reflexivity and imagination should, therefore, run alongside the powerful and important training of observational skills, mental logic and self-discipline in science education to encourage cutting edge developments (Root-Bernstein, 2011).

This is not to say that we should now teach religious content in the science class. I suggest that we teach the existing content artistically and in a spirit of reverent, meaning-rich enquiry. I hold that Physical Science should keep its focus on energy and matter, yet it should also train students to use the content of their educational experiences artistically to deepen their relationship to themselves and the world. This shift in focus to include the arts within science education would then mirror the engagement in the arts of most science Nobel Laureates (Root-Bernstein, 2011). In this way, all the zones of my Holistic Evolution Graph in Figure 7.1 will hopefully receive the holistic contextualisation and honour that they deserve.

Physical Science should also consider teaching holism to help students contextualise their learning. Holism recognises the roles of thinking and feeling when accompanying the content in a non-mechanistic way, allowing students to find their relationship to energy, matter, life, mind, personality and the spirit-filled world. In my estimation, the evolutionary development within holism will also allow students to understand why matter and energy are so perfect and lawful compared to the relative imperfections and lawlessness of human life. Holism also opens the door to thinking about what may have preceded the big bang formation of energy and matter, and what may follow our current stage of evolution (Smuts, 1926), as I have done in my wreality. Holism can help students to experience an intimate

oneness between the various manifestations of reality studied in science and any experiences they may have had of the love-filled flame-substance of the spiritual world as described in my autoethnography, NDE experiences and in religious texts.

A combined scientific and religious mindset is the best tool that I have found to draw the full measure of nutrients from my autobiographical and ethnographical life. If my finding that the clarity and strength of objective thinking and selfless compassion is the path to the healthy birth of the Spirit Self, then there would be extra motivation for a healthy relationship between science and religion within science and religious education.

According to my wreality, human mental and physical development can be understood within the holistic evolutionary scale as passing through various portals, and I recommend that further research explore the potential of using the notion of portals to perception, understanding and insight, to guide our educational direction and purpose. In this way, education policy can add depth to its current qualifications-based focus. By positioning spiritual development next to more practical purposes within education, perhaps the world of education can attract a broader range of talented teachers into its fold, and that further forms of education may also be found to help the development of children with specific learning needs, such as myself.

My finding that I am probably mildly autistic and that I seem to have needed experiences related to the spiritual world to feel more at home in this world, may be helpful to other autists. My initial realisation that the spirit of love and freedom lies hidden within our material world happened when I was using marijuana as related in e and me. This realisation is possibly not co-incidental. Dispenza says that chemicals that are released during pineal gland stimulation can bring an experience of the love-filled and enlightening spirit realm, and that these chemicals are the same as or similar to those in the drugs ecstasy and ayahuasca (Dispenza, 2019). This knowledge could warrant investigation into the therapeutic use of these or similar drugs with severely autistic patients to see if raising such states of consciousness within a therapeutic environment could enable new neural pathways

for severe autists to express their inner world more readily (Móró et al., 2011). I recommend that further research be done to investigate this matter.

Limitations of this study

The focus on culture, science, religion and education in this study means that many aspects of reality have not been considered. Some areas of study, like history, economics, empowerment, sexuality, medicine, politics, psychology and art have been lightly touched upon, but areas like fashion, music, law, industry, economics, architecture and more have been excluded, although they are no less important to forming a full picture of reality. These areas have not been used in this study simply because they have not been central to my wrestle for wreality through education, science and religion.

All the findings in this thesis are based on a combination of subjective and objective proofs. For myself, I can find no limitations in most findings of this thesis as they correspond directly to me and my research. Areas where I would expect limitations to be found will be in the visual representations of the autoethnographic research field in my Concept Map of Autoethnography and my Holism Evolution Graph. Both visual representations are very general and I believe will require work to make them more robust. I would also expect that my finding of 'letting go' and compassionate selflessness as a portal to experiencing our Spirit Self will also need refining from the experiences of others who can add their insights.

Ultimately, it is only the mind of the reader that can determine the limitations of these findings for themselves. As Aristotle says, we have much empirical evidence to draw from, but it is only in the human mind that we can conceptualise reality (Aristotle, 350 BC). I look forward to seeing if any researchers will take up the challenges of my findings for refinement and application.

Conclusion

My greatest stability while wrestling for my holistic was my anchor of trust in the strength of thinking so well demonstrated in my teaching of Calculus in Chapter 5,

where only clear logic enabled the building of a bridge to the solution. This seems like the true developmental fruit of our current scientific approach. My trust in the arts, the wisdom of religious teachings and the health of holistic evolution added living flesh to this stability despite me having embraced a lack of any form of security in life from the age of about 19.

The most difficult challenge that I met while doing this research was in the final editing phase, where each chapter was examined for academic rigour. The difficulty came as a double-edged sword, where every extra word added felt like one word too many in this already long thesis, and where it took every ounce of self-discipline to sit down and engage with the task. Reading my own writing so many times to find the little editing details that I did not naturally spot felt painful and was the only process of this thesis that I did not actively enjoy on some level. At the same time as struggling to motivate myself to edit, I was assailed by negative thoughts that this thesis may be rejected by the current custodians of academia. The most consequential of these negative thoughts was related to how I believe that Socrates would be treated in our current time. Socrates is portrayed by Plato as a guiding light for all of human thought, and I felt that the detailed and semantic demands of current academia would chase his profound thinking away from our hallowed university halls as being unreferenced and unsubstantiated, too vague and over-generalised, or too personal and not universal enough. Socrates' life stands as a role model for me and that which I value most in my work. My main self-accusatory thought was, 'If I think that Socrates would be rejected, what will be the fate of my work?' The support of my children, wife, sister, co-constructors, language editor and supervisor were a great help on this most difficult part of my journey, and I am grateful for the added value that this process of editing has given to this thesis. It seems that my dyslexia and mild autism that I see behind some of my pain in the editing process are still with me.

Other than the challenge mentioned above, throughout this study I have felt wave upon wave of understanding, transformation, healing and comfort flow through me. Writing Chapter 5 was the most personally moving while the rest of the work enabled

the expansion and grounding of my learning and wreality. Doing this study has been reassuring in that it placed and framed my wrestle within researched and established knowledge, something that I would not have otherwise done.

Dear reader, I hope that this thesis has challenged and enriched your own wreality in healthy and strengthening ways. If in any way this thesis brought you disquiet, please know that this was not intentional, and that my wish is for an ultimate enrichment of all of life. My even deeper wish is that this study will sow ideas and actions that will enrich education for our youth, who, if I read them correctly, are in desperate need of an education that is meaningful and life-affirming.

At the start of this thesis I warned you, the reader, that you may encounter unusual and possibly uncomfortable ideas and experiences. If your experience in encountering some of the ideas of this thesis has been difficult, uncomfortable or confusing and where very little of it made sense, please recall that this is how I felt with the ideas of my ethnographic world while growing up. I needed each and every one of the experiences and ideas related in this study to build a holistic wreality that enabled me to finally make sense of my world, education, science and religion. It seems that building a defensible holistic wreality is a truly individual task and that autoethnography is the research format that is perfectly suited to present this wrestled blessedness.

I have wrestled for my holistic wreality by recognising the equal value of our subjective and objective experiences, our imagination-rich intuitions and clearly-reasoned logic. Using these tools, I identified what seem like the stumbling blocks of dogma that hold science and religion so doggedly apart. Having trusted the validity of my personal experiences, the practice and findings of science and the wisdom within religious scriptures, my wreality now feels alive to me. If it is true that a loving spirit stands behind all of nature as I encountered in e and me, and if we all have our own individualised healing Spirit Self for whose manifestation we are responsible, then we really need to reassess our lives and how we educate our children. Education then needs to create schools with nutrient environments that

allow our children to grow roots that are deep, be given sweet water and air that is fresh with birdsong and more, and in light, bright and warm and clear, from just beyond our reach. Only such an education will give us the strength and insight to see the weight of burden that each of us bear in our individual wrestles for wreality, and the courage for the hard work that we need to create meaning-rich lives.

In South Africa, in many languages we greet each other by saying, 'I see you'. This thesis is a tribute to our deep and powerful human need to be seen in all the pain and glory of our wrestle. It also bears my heartfelt wish that in the science classroom we can truly say 'I see you' to all that we study.

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Appendix

Verisimilitude final statements by co-constructors

Mother's statement of verisimilitude:

Dear Philip

It has been a lovely, if at times painful, experience to revisit these memories with you. The accuracy of the events have been checked with me and I am more than happy with what has been related here.

What stands out for me is how clearly you have portrayed my feelings towards each of the events told. It is clear that you have really heard not just what I am saying but also the inner world of fear, love, pain and joy that I lived through.

Thank you for this opportunity to contribute to your study in such a personally real and moving way.

Mrs M [REDACTED] [REDACTED] [REDACTED]

27 Feb 2021

--oOo--

Father's statement of verisimilitude:

I wasn't aware of some of the events that he tells of Lithuania so I cannot verify the accuracy of those. The rest is correct according to my recollections.

He projected my reality fairly accurately. It awakened memories that stirred my emotions. It made me feel sad and sentimental to be reminded of those times.

Ultimately, I am very happy that he read through the events with me because it awakened my memories. It makes me want to visit my parent's graves again.

I really appreciate Philip's kindness and patience in working with me in my parts of this study.

Mr H [REDACTED]

27 Feb 2021

--oOo--

Wife's statement of verisimilitude:

T [REDACTED] <t [REDACTED]@yahoo.com>

To: philip mirkin

Mon, Nov 22 2021 at 11:36 AM

Dear Philip

The chapter with stories and poems feels truthful and real. They certainly have not changed over the years and the stories that I know of from our many years together are accurate. You have indeed captured the many different realities and the way you have portrayed them seem very valid, at least from my perspective as your wife of 27 years.

I love how you pull all the threads together and leave no loose ends: as an expression of how I trust that all aspects are meaningful and worthy of examination; all the parts are needed and are used to make the whole.

I was not surprised to hear of the events of Pentecost being linked to human evolution as the next substance to incarnate into holistic evolution. In fact, my only surprise is that nobody has thought of it already.

Lots of love - so proud of you!

T [REDACTED]

t [REDACTED] <t [REDACTED]@yahoo.com>

To: philip mirkin

Mon, Dec 6 2021 at 7:48 AM

Hi Philip

Missing you and thinking about the time you told me about you being on the spectrum of autism and it suddenly feeling as if things made more sense. That some of your behaviour patterns seemed to fall into place if looked at from that kind of perspective.

Lots of love

T [REDACTED]

--oOo--

Son's statement of verisimilitude:

M [REDACTED] <m [REDACTED]@gmail.com>

To: philip mirkin

Wed, Nov 24 2021 at 12:52 PM

Dear Philip,

As your son, who has been wrestling with you for [REDACTED] years, I can attest that this study is your most honest, earnest, rigorous, comprehensive and yet inspiringly creative examination of your evolving relationship to spirituality and science.

Every experience that you have drawn on in this study, relived and boldly retold in the present tense, is unassailably true. This work is a testament to your life, and your process.

I am immensely proud of you.

With love,

M [REDACTED]

--oOo--

Sister's statement of verisimilitude:

[REDACTED] <[REDACTED]@yahoo.co.uk>

To: philip mirkin

Tue, Nov 23 2021 at 12:41 PM

Hi Phil,

Philip's writing is very authentic and took me back to our younger days. It was interesting to gain a better understanding of his view. I can confirm the truth of his account.

He has always been able to think things through in a remarkable way and I'm not surprised that his path has led him to this study. Both science and religion have always been very present in his life. When combined with his truly distinctive way of thinking, it has resulted in his current study.

I remember as a child being transported by his stories. I am not completely surprised that he is mildly autistic - his singing through things, his (very annoying) habit of putting on accents (esp. when playing backgammon), and his frustration and anger as a teenager.

I am also very grateful for his ability to cut through the nonsense and think things through. It has helped me with many a challenge.

This study is very reflective of who Philip is and representative of his ideas and thoughts.

I am extremely proud of my big brother and what he has achieved

S [REDACTED]

--oOo--

Primary school friend's statement of verisimilitude:

d [REDACTED].org>

To: philip mirkin

Sun, Oct 24 2021 at 3:33 PM

Hi Phil,

Our friendship of 50 years and endless discussions have transcended time and the multiverse, and questioned the fundamentals of the physical world and the metaphysical and the conscripts of religion and the soul.

Philip is a lighthouse built on solid rock, a beacon of light reaching out to all he encounters. He has always been passionate in all he considers and, mixed with a somewhat idealistic perception of what could and should be, is driven to be the best he can be. His integrity is never thwarted by temptation, he always strives to better himself and his students.

We played a lot of chess in our teens and although he normally won, we both understood that the game was far more than just winning, it was about understanding and testing each other's minds. The lessons learned changed our approach to everything we did or encountered. It made us question more, trying to understand what motivates people or students in their views. This is an area of research now which posits that reality is only our perception of reality filtered through a lens of knowledge, wisdom and experiences encountered on our life journey. Often we no longer remember what happened in a past experience but somewhere deep in the brain our decision making is still controlled by

these stored events and emotions. We all react to words, visual stimuli, and even how we treat ourselves and others, through this lens.

Philip and I travelled this journey of life on two very different paths. He has always been focused and I, with ADHD, have bounced around several careers. Surprisingly this Ying and Yang approach has helped our friendship as we have always been able to agree to disagree.

I have designed educational card games, board games and puzzles that were used by millions of children and adults and have been translated and distributed in 18 countries. My concept was that students learn more when their education was less rigid and more engaging and fun.

Philip approached education with gusto in the classroom. His ability to try and understand his students and motivate them to want to learn has had profound results. Challenging his students required dedication, work and constant evaluation and he has always done this.

Philip shared his thesis with me and I think it a remarkable achievement to define in an elegant and approachable manner such a complex subject. I believe it is the culmination of decades of his dedicated work experience with frequent honest assessment as to why some students out-perform all expectations and others not.

Philip's self-reflection and willingness to better himself have helped him develop new ways to connect with his students and instil in them a passion for learning. His thesis is a summary of a lifetime of work and analysis and I hope that it will define a new paradigm and holistic approach that others will build on for future generations.

d[REDACTED].org>

To: philip mirkin

On 9 November 2021

There is nothing that I can think of to contradict your insights.

200 Days at Sea must have been daunting to say the least but to then coalesce the vast volume of literature and thoughts into an awakening and then masterfully summarize it leaves me very humbled.

Thank you for sharing this. A lot of self-reflection occurred while reading the parts I did. Wish I had more time to quietly read it in its entirety.

--oOo--

Primary school friend's statement of verisimilitude:

b[REDACTED]@gmail.com

To:'philip mirkin'

Tue, Nov 23 2021 at 11:04 PM

Hi Philip,

I have read your 5 November thesis with more than a little interest; although I admit that I have not yet read it end to end.

I feel compelled to admit also that I am not sure that I could remember formative aspects of my own life in anything like the same level of detail as you.

Having said that:

- You are right that we spent time together around about the time we were in standard 2
 - Possibly when doing a bird project (which I sadly cannot remember) my mother remembers you spending an afternoon at our house at the time we had builders in doing some renovations to convert an outside area at the back of our house into a games room.
 - She remembers you as a 'bit mischievous' (which is not my recollection at all) although that might possibly have had something to do with you telling a rather naughty joke about 'shagging a stuffed chicken'.
 - As she tells it, the builders (and my mother I suspect) found it more than a little amusing.
 - I find myself a little distressed I cannot remember the punchline. Maybe google will come to my aid.
 - I note with some humour I have not thought about slug eaters (snakes) for a very long time:

- I seem to remember G [REDACTED] [REDACTED] bringing scorpions to school one year; a feat matched or even exceeded by W [REDACTED] [REDACTED] who also had a fondness for large, hairy spiders (as well as snakes).
- With regard to your recollection of our experiences in Chemistry I remember the teachers in question extremely well
 - One 'might' have thrown a block of either potassium or sodium into the swimming pool one year with a bang that the whole school 'would have' heard and the resulting change in pH meant the next lesson's swimming lesson had to be called to a premature close due to the adverse impact on the students
 - Another teacher was probably largely to blame for me not having a clue in the chemistry lab once I got to university; a situation that resolved itself when I thankfully passed all my second year chemistry exams (as a chem eng student that was the last of chemistry as a subject that at school I thought I liked but had no real affinity for).
 - I recall A [REDACTED] [REDACTED] who sat next to me one year being completely disinterested and disparaging about the teacher.
 - A [REDACTED] later became the youngest of his law year to become a partner at a law firm, so it was not for lack of intellect that he felt how he did.
 - (odd random thought that will be of no use to you whatsoever: A [REDACTED] loved Lene Lovich's album Song, which I never could quite get)
- With respect to the Transcendental Meditation (TM) period of our lives I recall grappling with similar issues to the ones you describe:
 - I also recall a somewhat bizarre experience in a kitchen in a house somewhere in Newlands holding slices of bread against the wall to see how straight we had cut them (we must have been high on life?).
 - And going on a TM retreat for a weekend on a farm of some kind somewhere out towards the Dutoitskloof mountains.
 - After 2 days of meditation we had a firm case of the giggles (which R [REDACTED] and C [REDACTED] [REDACTED] viewed in a very dim light; I felt the same about R [REDACTED]'s sense of humour on more than just one occasion).
 - I am not sure that in this second stage of life I have quite made the same degree of progress with 'wrestling' as you appear to have made.
 - I consider myself in many respects a 'mindful' (not mindless) stoic who nevertheless tries to see beauty in the little things despite the sad absurdities of human behaviour I see almost everywhere.
 - Nature keeps moving forward as you say; I just hope we can be prevented from killing it even more comprehensively than we are currently doing.
- I love the story of e and me:
 - And find it somewhat disappointing that I did not have the same understanding of its 'symmetry' (let's call it that) while I was studying engineering. I would have marvelled at the details on e if those had been explained to me (were they, did I simply forget, I can't believe that would have been the case).
 - Having said that, this then is possibly a good opportunity to reflect how generally disappointed I was despite our privileged backgrounds (and we were privileged) at the way we were taught at school and my experience of the educational (teaching) process at university

- I remember my thermodynamics professor telling our class not to bother understanding thermodynamics because if you do 'you belong in Valkenberg' [Mental hospital]
- I also remember him telling me subsequently that someone had come to him saying they'd figured Thermodynamics all out, only to later be committed to Valkenberg.
- Interesting perhaps that a few years later I found the first half of a post graduate course in advanced thermodynamics so 'easy to get' that I found it boring! Was I in the right institution, do you think?
- Certainly, my view of Engineering was that they did not teach us to think, focusing instead on getting us to learn how to pass exams under pressure. A missed opportunity all round.
- Despite that, and possibly due to the absence of confined classroom learning, I found my PhD years as some of my most enjoyable.
- I was interested to read about your experiences teaching black students
 - That reads true too.
 - When I was teaching Heat Transfer to second year students I found that very few, if any, would raise a hand in class to say they did not understand something.
 - My first wife's experience was very similar (in the next door chemistry building).
 - I also remember spending most afternoons with students who needed a good deal more help trying to grapple with concepts that seemed to be easy to grasp for many of the white students from more privileged backgrounds.
 - I remember having long conversations with A [REDACTED] who taught me engineering drawing in first year:
 - His view was, amongst other things, was that students coming out of 'rural Transkei' with rondavels, no straight lines and no artificial horizons 'could not get engineering drawing or see hidden lines'.
 - He spent much of his afternoons doing 'remedial' teaching to help struggling students overcome the inherent issues resulting from lack of access to different inputs during their younger lives.
 - BBC's 'Child of Our Time' covered fascinating ground on how early age input and stimulus fashions our later intellectual abilities.
- I hope that helps in some small measure to corroborate or confirm that as far as I am concerned your recollections of the formative experiences which we shared are consistent with my own.

In closing, good luck with the journey: I wish I could remember the chicken joke although I appreciate the thought of the joke might be better than the joke itself.

With kind regards,

B [REDACTED]

--oOo--

High school friend's statement of verisimilitude:

G [REDACTED] <[REDACTED]@icloud.com>

To: philip mirkin

Wed, Nov 10 2021 at 11:26 AM

Hi Philip

As I read all of it, the references did not really matter, so to confirm. my recollection was the same as yours.

It was a great effort, you must be very proud of it, well done.

It would be great to catch up one day!

Let's keep in touch

Cheers

Kind Regards

G [REDACTED]

G [REDACTED] <[REDACTED]@icloud.com>

To: philip mirkin

Sat, Nov 6 2021 at 8:39 AM

Hey Philip

What an honour to be part of your journey!

I have also tested my faith, studied the various religions and went on a mission to discover God. My conclusion was that god is inside all of us, in nature, in all of life and most importantly is love.

As such I would describe myself now as spiritual and believe in parts of all religions, ie I deal directly with the universal energy/ spirit/creator without any rituals, traditions or dogma.

Seems we on the same wavelength after all these years!

Everyone has their own path and they need to find their own truth but I'm so glad I have found mine as it appears you have too!

So good to connect with you again

Your friend always

G [REDACTED]

--oOo--

Primary school teacher's statement of verisimilitude:

R [REDACTED]@gmail.com >

To: philip mirkin

Hi Philip

Only to repeat that I feel humbled by your perception and memory of me and some positive influence I seem to have had on you. I wonder how many teachers fully realise the potential they have for harm or good.

I referred to my hand-written mark book of your 1975 Class and note that both yourself and Dick were very strong in Maths and Science. English overall mark not as much. In my experience it is quite common for dyslexics to be good at Maths. My approach to reading written essays was to not place too much emphasis on poor spelling/grammar – but to enjoy how the pupil was expressing his ideas. I remember in particular one incident where a teacher could not understand how I had given a high mark for a pupil's essay which was riddled with spelling errors. This pupil won the English Prize in Matric at the end of his Matric year.

I suspect that your relating to me as a teacher has much to do with the fact that you sensed your teacher was a Nature lover too. And the story telling too may have played a part.

Wreality Wrestler sees in this story a picture of how he incorporates his respect and love for nature into his teaching of science.

I can understand that with the formative background of the years you describe so well, that you would have accepted your *“privilege as a natural inheritance.”* It says a lot for your strength of character that you have matured into this with your integrity intact and *“walk humbly and confidently into new situations with (your) trained faculties of open engagement and awake mind, trusting that (you) can find meaning and human connection there.”*

Your account of the world that you grew up in is so clear and compelling that it must surely reflect the authenticity of your experience as you perceive it.

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