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Beyond the Physical Realm of Mindfulness: The Nature of Reality and Concept of Mind in
Traditional Eastern Philosophy of Sufism and the Quantum Paradigm

Master's Thesis in Education
FACULTY OF EDUCATIONAL SCIENCES
Education and Globalisation
2019

University of Oulu

Faculty of Education

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Master's Thesis in Education, 116 pages, 3 appendices

March 2019

The pandemonium seizing the world is not so much a physical one, rather a reflection of the chaos in the human mind. Resultantly, a plethora of concepts have been proposed to address this need in society, one being mindfulness. Central to this concept of mindfulness is the nature of reality and notion of mind. Yet, contemporary mindfulness literature is sparse in addressing these fundamental aspects and instead tends to be undergirded by scientific evidence-based approach which is rooted in modern science also known as Classical Science. This trend is not only widespread in the contemporary mindfulness studies but is the sine qua non of the larger social sciences and humanities research traditions. Despite this prevalence, science has moved into a promising, contemporary branch of science of the Quantum where the non-physical, non-material reality is the default state. This new model of reality introduces a more holistic thought tradition of “both/and” probabilistic thinking perspective instead of “either/or”. Adopting this Quantum Science reality, this thesis explores the nature of reality and concept of mind in contemporary mindfulness and Sufism, comparing both frameworks to that of Quantum Science.

Findings demonstrate parallel tenets with regards to the nature of reality, the nature of human and the concept of mind between Quantum Science and Sufism, ultimately bridging the gap between spirituality, religion and science. Furthermore, the thesis uncovers that the perpetual implicit assumptions underpinning contemporary mindfulness are still largely based on the axioms of Classical Science emphasizing physical matter. These axioms continue to assert influence in many academic disciplines even though it had been shown not to be a concrete, default view of science but resulting from historical circumstances. As such, contemporary mindfulness assumes that the mind is an epiphenomenon of the brain. Contrarily, both Sufism and Quantum Science demand a deeper and richer understanding of reality and matter that goes beyond the physical. Neither of them subscribes to the perspective that mind is an emergent property of the brain. Instead, the mind or consciousness, is metaphysical in essence. This significance given to the metaphysical inadvertently provides scientific legitimacy to philosophies, theories, methodologies, approaches and others that center around subjectivity like in education, better capturing the essence of the human.

Keywords: mindfulness, quantum science, mind, reality, metaphysical, spirituality, sufism

Acknowledgements

In the name of God, the Most Gracious, the Most Mercy-Giving.

This thesis truly required the assistance of an entire village to get it completed despite having my name appear on the cover page. To my best friend, my husband. Thank you for sacrificing your time and career to help me raise our sweet little boy while I work on completing this thesis. Words cannot describe how truly blessed I am to have you by my side. To Baba, thank you for supporting my decision to chase my dreams, regardless of how absurd it may seem. To both my brothers. My life would not be complete without the two of you. Thank you for constantly reminding me to be a better sister to the both of you. Kak Ni, my soul sister, thank you for always believing in me, sometimes even more than I do myself.

To my supervisor, Rauni. Thank you for believing in me and for the continuous encouragement, which often came at the most crucial times. I sincerely apologise for keeping you at work even though you have retired. My utmost thanks also go out to Maria, my secondary supervisor, for all her encouraging comments. I would also like to thank Helena and Ayu for assisting me with fulfilling the requirements I need to graduate. I would also like to thank Uncle A. for teaching my mom. I have experienced the trickle-down effect of your guidance, of which I am truly grateful for.

Last but not least, to my first and everlasting love, Mama. You are the sole reason I started on this voluntary path and remain to be one of the reasons I have stayed on it. Your strength, determination, passion, wisdom and gentleness, humble me. You have been my source of comfort for as long as I can remember. Thank you for all that you do. I dedicate this thesis, and my journey, to you. May we both be physically around to see our dream become a reality, God willing.

To everyone else who have played and continue to play crucial roles in shaping me to become a better human every day, I offer you my humblest gratitude.

May we all be constantly in His care.

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GLOSSARY

Term	Explanation
'Ana Al-Haqq	'I am the Truth'. Infamously uttered by Sufi Mansur al-Hallaj causing him to be sentenced to death for blasphemy.
'Aqala	To use one's intelligence, to comprehend, to understand and to think
'Aql	Intellect
'Ayn Al-Yaqin	Eye of Certainty
'Ilm Al-Yaqin	Knowledge or Lore of Certainty
'Usul Al-Din	The scientific method of religion or 'Principles' of Islam
Afala Ta'qilun	Expression in the Qur'an meaning "Will you not understand?" or "Have you then no sense?"
Alam	Realm
Alam Malakut	The Spiritual Realm also known as The Intellectual Realm where the souls and all spiritual faculties reside
Alam Mulk	The Corporeal Realm consisting of the visible cosmos or the universe as we know it
Alam Jabarut	The Realm of Non-Manifest
Al-Batin	One of the 99 Names and Attributes of God meaning 'The Hidden'
Al-Qadeer	One of the 99 Names and Attributes of God meaning 'The Powerful'
Ar-Rahman	One of the 99 Names and Attributes of God meaning 'The Mercy-Giving'
Az-Zahir	One of the 99 Names and Attributes of God meaning 'The Manifest'
Bashar	Human's physical frame devoid of <i>nafs</i> akin to the primordial animal not dissimilar to the Darwinian man.
Batin	Internal
Classical Science	Also known as Classical Physics, Cartesian-Newtonian Science
Complementarity	That an electron is both wave-and-particle but when observed can only be wave or particle.

Copenhagen Interpretation	The accepted expression of the meaning of quantum mechanics originated from Niels Bohr and Werner Heisenberg
Dukkha	Human suffering
Filasifa	Philosophers
Fiqh	Jurisprudence
Fuqaha'	Jurists
Fusus Al-Hikam	The Bezels of Wisdom written by prominent Sufi mystic Ibn Arabi
Gedankenexperiment	Thought experiment first initiated by Albert Einstein
Geist	Spirit
Haqq Al-Yaqin	Truth of Certainty
Ihsan	Perfection or Excellence
Insan	Human, a being with <i>ruh</i> and <i>nafs</i>
Insan Al-Kamil	The Perfect Man, Universal Man and Comprehensive Man. Man is used neutrally, without any gender connotation.
Kalam	Theology
Kashf	Unveiling
Khayal	Illusion
Lawa'ih	Glimmerings
Lawami	Flashes
Lebenswelt	Lifeworld, a terminology used by Husserl to describe reality constituting of moral, social, political and religious dimensions
Luh Mahfuz	A metaphysical realm
Mabda'-Wa-Maad,	The Origin from God and the Return to God
Maqam	Station, a place of stability as oppose to a state
Materie	Matter
Mushaf	Physical bound volume of the Quran
Mutakallimun	Authorities in Islamic theology
Nafs	Soul, the intermediary between the body and the spirit
Nafs Al- Lawammah	The self-reproaching soul
Nafs Al-Ammarah	The evil-commanding soul, the most primitive of the souls
Nafs Al-Mutmainnah	The Tranquil Soul
Nirvana	A state of "transcendent reality which is unborn, unoriginated, uncreated and unformed" in Buddhism

Nubuwwa	Principle of Prophecy
Observer Effect	A principle in Quantum Science where the observer affects the behaviour of the observed
Qadha' Qadar	The Measuring Out – one of the five pillars of Islamic faith
Qalb	Sentient Heart
Quantum Science	Also known as Quantum Mechanics, Quantum Physics
Reductionism	Nature can be understood by reducing it to its individual constituents or a sum of its parts
Res Cogitans	Thinking subject
Res Extensa	Material world
Ruh	Spirit
Sahw	Sobriety, related to the experiences of a Sufi
Salim	Adjectival form of <i>Salima</i> , meaning 'whole, pure, sound, unblemished, unimpaired and secure'
Salima	Another connotation of the root word of Islam, meaning 'to be whole, complete, healthy, safe'
Shahadah	The universal Islamic credo: "There is no god but God, and Muhammad is His messenger."
Shariah	Islamic law
Sukr	Drunkenness, related to the experiences of a Sufi
Superposition	A state of potentiality between an idea of a thing and the actual thing, where light is both a wave and a particle
Ta'aqqul	Rational discernment
Ta'qilun	'You understand'
Ta'wil	Interpretations
Tabula Rasa	A clean slate
Tadabbur	Methods of contemplation and deep pondering
Tadhakkur	Taking heed of God's messages and warnings
Tafakkur	Reflection
Tanzih	Knowledge of God as Invisible and beyond knowledge
Tariqa	Order
Tariqat	Spiritual Path
Tasawwuf	Inner Path of Islam

Tasbih	Knowledge of God as Manifested and evident in everything
Tawali'	Dawnings
Ulama'	Scholar
Uncertainty Principle	Relating to the principle of Complementarity, an observer can either know where an electron is or what it is doing, never both at the same time
Verstand	Mind
Wave-Particle Duality	That an electron is both a wave and a particle
Yaqin	Certainty
Zahir	Arabic meaning 'external'.

1 INTRODUCTION

September 21st, Malaysia; seven youths as young as eleven years old were arrested for arson where 21 children and 3 teachers died. October 1st, United States of America; 58 people were killed and 546 were injured when a gunman opened fire during a concert. October 3rd, Myanmar; an estimated 536,000 Rohingyas fled their home country due to ‘ethnic cleansing’. November 12th, Poland; 60,000 protestors marched through the streets of Warsaw in one of the biggest nationalist marches in Europe brandishing Nazi and white supremacist slogans. November 24th, Egypt; 305 killed during prayers when a bomb exploded at a mosque. November 26th, United Kingdom; 15-year-old boy kills five when stolen car he was driving hits tree.

The above is a snapshot of the current state of society. We are living in times of great disorder and uncertainty as can be seen from the preceding passage. At the same time, the pressure for a spiritual renaissance is currently at its strongest (Russell, 2004). This demonstrates that the pandemonium seizing the world is not so much a physical one, but rather a reflection of the chaos in the human mind. Haeri (2003) mentioned that man’s attention would turn towards knowledge upon the collapse of society. As such, we see the emergence of a plethora of concepts rising out of this need, much like a body seeking out food due to starvation.

One such idea is the concept of mindfulness which has been welcomed by experts and specialists from various fields including educators who see it as “the antidote to the disease of twenty-first century life” (Cullen, 2011, p.4).

1.1 MINDFULNESS - A BRIEF INTRODUCTION TO THE CONTEXT

According to the Mindfulness in Education Network, the evidences of the benefits of using mindfulness include increased attention in the classroom (Walton, 2016), effective treatment for aggression, ADHD or anxiety in children and adolescents (Davis, 2015) and assisting young adults to manage stress through self-awareness (Indivero, 2017), amongst others.

Although this concept saw a boom over the last decades, mindfulness initially originated from the 5th century BCE eastern religion of Buddhism of which the essence regarding human sufferings or dukkha is a part of the Four Noble Truths. While in the first two Noble Truths, the Buddha had diagnosed the suffering and established its origin respectively, the third Noble Truth relates to the realisation that there is a cure. The fourth Noble Truth is where the Buddha laid out the Eightfold Path with mindfulness being one of the eight ‘limbs’ as a prescription to attain release from suffering (“The Four Noble Truths”, 2009). According to the Buddha, suffering is not just about physical or emotional pain but also relates to deeper existential reality (Wayne, 2016). Within the Buddhist tradition, the end goal of mindfulness is to achieve liberation of the mind so as to attain “Nirvana”, a state of “transcendent reality which is unborn, unoriginated, uncreated and unformed” (Keown, n.d). This is arrived at through one’s ability to deal with one’s state of suffering rooted from greed, hatred and delusion, all existing in the metaphysical realm of human. In this context, mindfulness is to be able to “see clearly” by having the insight to diffuse mental suffering arising from ignorance. This insight can only be nurtured through specific practices which includes meditation (Moffitt, 2017). To surmise, although the Buddha attributed dukkha as the cause of imbalance of an individual, he provided a methodical framework to address it.

Contemporary mindfulness on the other hand, focuses more on the operationalisation of mindfulness. For example, Jon Kabat-Zinn views mindfulness as “paying attention in a way: on purpose, in the present moment and non-judgmentally which nurtures greater awareness, clarity, and acceptance of present-moment reality” (Hyland, 2015, p.171). His mindfulness-based stress reduction (MBSR) method pioneered in 1979 emphasises on meditation techniques as a standalone skill to achieve mindfulness. Offered at an outpatient stress reduction clinic at the University of Massachusetts Medical Center, patients were subjected to relatively intensive mindfulness meditation; harnessing the fundamentals of mindfulness as taught by the Buddha to face and relieve suffering at both the mind and body as well as understanding the inherent potential power existing in the mind/body connection. However, the meditation is free of the ideological, religious, and cultural factors related with the Buddhist background of mindfulness, since the purpose was not to teach Buddhism but to help patients cope with their medical situations. (Kabat-Zinn, 2003).

Following on from Kabat-Zinn's work on MBSR to help patients with chronic physical pains, Zindel Segal, John Teasdale and Mark Williams developed the mindfulness-based cognitive therapy (MBCT), introduced in their seminal book, "Mindfulness Based Cognitive Therapy for Depression: A New Approach to Preventing Relapse" in 2002. MBCT is an approach to deal with relapse and recurrence of episodes of depression among sufferers including people with suicidal thoughts and/or who had attempted suicide. Participants not only learn the practice of mindfulness meditation in a class but also practice daily at home, guided with tapes. Participants also learn about depression – the link between thinking and feeling – and how to be aware of their state of their moods and care for themselves. Nonetheless unlike conventional cognitive therapy, MBCT does not attempt to alter the content of negative perspectives of participants but instead help them appreciate the fleeting nature of the thoughts which have implications on their feelings and body sensations so that they have a choice whether to engage with these negative feelings or not (Williams & Kuyken, 2012).

Ellen Langer, another psychologist, views mindfulness from a different perspective, emphasizing cognitive processing of sensory input. Langer defines mindfulness as the "process of drawing novel distinctions" to keep us situated in the present-day (Langer & Moldoveanu, 2000, p.1). According to Langer (2009), this process is achieved by looking for novel characteristics out of routine experiences such as looking at the person they live with or the work they usually perform in a different light as one would do when travelling to a new destination. This process of drawing distinctions, regardless the triviality of what is noticed, enables human beings to remain in the present moment as we are often influenced by the illusion of stability, perceiving things to remain unchanged even though change is constantly taking place (Langer, 2009).

The preceding discussion captures the diversity in the landscape of contemporary mindfulness philosophies and approaches. Relatively new, contemporary mindfulness was born into a world that is focused on capital gains and expects instant gratification and quick cure to distress (Monteiro, Musten and Compson, 2014). As a result, contemporary mindfulness is modifying the original concepts and approaches of mindfulness as taught by the Buddha to fit the Western standards of effecting change and dealing with stress and dissatisfaction (Monteiro et al., 2014). The continuous change in contemporary mindfulness is highlighted by Baer (2011), in which he asserts that there is difficulty in defining mindfulness due to the meaning of mindfulness being subtle and elusive. Brown, Ryan and Creswell (2007) while reporting other approaches

within the category of self-awareness idea of mindfulness as MBSR and MBCT, such as the Acceptance and Commitment Therapy (ACT) by Hayes et al., Dialectical Behaviour Therapy (DBT) by Linehan and other variants, also assert that there are various definitions of mindfulness. While it may seem as though modern scholars and practitioners of mindfulness disagree to how mindfulness is defined as, Brown et al. (2007) view that what differentiates the different schools of thought is a matter of emphasis on certain characteristics of mindfulness. Yet, what they have in common is that contemporary mindfulness practice often deconstructs mindfulness into its mechanisms and active components (Monteiro et al., 2014). While original mindfulness as taught by the Buddha approaches cessation from suffering through fervent practice focusing on understanding the fundamental causes of that suffering by questioning deeper existential issues, contemporary mindfulness tends to focus on relief from distress as oppose to liberation causing it to be secular in nature (Monteiro et al., 2014). This secularisation of mindfulness has been criticised by proponents of the original mindfulness, henceforth referred to as traditional mindfulness, expressing concern that the conceptualisation of mindfulness is incomplete when the practices are decontextualised (Monteiro et al., 2014).

In the effort to address this concern, there have been attempts by contemporary mindfulness practitioners to include a more well-rounded approach to the cultivation of well-being in the form of mindfulness-based intervention (MBI) practices. According to Monteiro et al. (2014), MBI is based on three components. The first component represents contemplative practices which can be spiritual and/or religious such as sitting or walking meditations to nurture a specific manner of attentiveness. The second is about using the perceptive skills constructively to understand the experience of the flow of events in the body/mind. By clarifying the nature of one's experience, one is able to make improved choices and act not just for the benefit of oneself but for all beings. The third component is about addressing the intention of the treatment process to avoid the discomfort of an immediate experience. By familiarising with the strategies of avoidance of experiencing the moment, ultimately one learns to take responsibility for one's own experience and cultivate the wisdom to manage it skillfully. Nevertheless, MBI, with its roots in MBSR, only offers symptomatic relief and thus deemed incomplete by traditional mindfulness proponents (Monteiro et al., 2014).

Within education, the emphasis has evolved to finding ways of how to integrate mindfulness into the curriculum as a means to enhance student learning through attention training or addressing the “wandering” mind, for instance in the works of Ergas (2014; 2017). However, Baer (2011) noted that most teachers and even psychologists who have worked to make mindfulness accessible to non-Buddhist Westerners including in the areas of education are not Buddhist scholars. Hence the mindfulness approaches that have been adopted into the field of education are often not explicitly based on Buddhist practices of mindfulness. This form of mindfulness is what this thesis refers to as contemporary mindfulness.

1.2 THE SETTING OF THIS RESEARCH

While studies on efficacy of mindfulness integration within different educational settings including teachers training are getting popular, the literature is sparse on the spiritual aspect of mindfulness as traditionally propagated. As Purser and Loy (2013) assert, what is glaring in contemporary mindfulness, is the absence of the spiritual dimension of traditional mindfulness, hence secularising the idea. The spiritual dimension according to the Buddha, as quoted by Moffitt (2017), constitutes elements of the nature of reality, a prerequisite to solve ignorance of the mind. Nevertheless, contemporary mindfulness which is supposedly meant to solve the real and essential needs of the human (Moffitt, 2017) almost always does not include questioning one’s conception of the nature of reality. And since the Buddha noted that mindfulness is one of the eight approaches to liberate the human from suffering (stemming from issues related to physical and emotional pain as well as deeper existential reality), the concern is that contemporary mindfulness may create unsustainable benefits.

Initial review in preparation for this thesis demonstrates rich literature in the spiritual mindfulness domain addressing the fundamental concept of the nature of reality in Buddhism, especially Zen Buddhism. The review also uncovers that Sufism as another Eastern spirituality tradition of the seventh century also places great importance to the nature of reality among its adopters. Sufism as a philosophy is based on the self, taking a path of internal journey (Haeri, 2003) to ascend to a higher level of tranquillity and existence within the various realms of reality. The main difference between the spiritual ascension in Buddhism and Sufism lies in their

purpose. While in Buddhism, the path to Nirvana is peaked at attaining nothingness point, Sufism's sacred purpose of self-ascension is to attain nearness to God. But both also comprise essence and form in which the former representing the metaphysical inner substance of the human and the latter, the body. In light of the Sufi practice being also about the journey of the inner self, this review regarding the spiritual facet of mindfulness was extended to include the traditional philosophy of Sufism as another Eastern spiritual belief tradition and thought, as an alternative subject of study to Buddhism.

Results from the literature review show a somewhat startling discovery. There is hardly any mention of mindfulness in traditional Sufi literature. What stood out was the mentioning of the profound role of the heart or qalb in the inner journey so that Sufis are also known as educators of the hearts. This absence of mindfulness concept within the Sufi tradition triggers questions on whether the concept of mindfulness takes a different form. Could it be that what the Sufis refer to as the heart is what contemporary mindfulness proponents refer to as mind? Or, could it be that mindfulness is simply not appropriate in the Sufi order? Given a distinct vacuum within the spiritual mindfulness literature on the Sufi inner journey, this thesis attempts to address the void in literature by investigating through a phenomenological (hermeneutic) approach, the position of mindfulness within the Sufi tradition and thought through its foundational element of the nature of reality and the understanding of the concept of mind.

This realisation of the lack of discourse on the more fundamental issues regarding the nature of reality and the nature of human grounding contemporary mindfulness bolstered this thesis journey to embark in researching literature on mindfulness that addresses how the concepts of the mind are understood. The reason for researching on the concepts of mind in contemporary mindfulness literature is because, according to many contemporary mindfulness advocates, there is a link between mindfulness and the state of one's mind especially through mindfulness' ability to identify new features in the mind-body relationship (Nejati, Zabihzadeh, Maleki & Tehranchi, 2011; Fabbro, Crescentini, Matiz, Clarici & Fabbro, 2017). For example, Nejati et al. (2011) asserts that this relationship lie in the association of the concept of mindfulness with the theory of mind in that the mind has the capability to understand its own mental states and others, through the cognitive strength of the brain. These mental states include "perceptions, emotional states, bodily feelings as well as propositional attitudes which include desires, inten-

tions, beliefs and hopes” (Goldman, 2012). To assess the benefits of mindfulness, the contemporary mindfulness school measures one’s state of mind and recognises it to be measuring mindfulness (for instance as done by Baer, 2011).

With the establishment of the centrality of the mind in mindfulness, it becomes essential to investigate the concept of mind so as to be able to fully understand better both contemporary and spiritual mindfulness. The reason being, study of concepts provides a language in which to articulate the phenomena and frameworks that are to be explained and understood (Berenskoetter, 2016). Therefore, this thesis traces the evolution of the diverse interpretations of the concept of mind over a specific place and time (synchronic) and across space and time (diachronic). Yet, to fully understand a concept requires looking at it in action by looking at the actor using it (Berenskoetter, 2016). Accordingly, this thesis is anchored in the Eastern integral, intellectual tradition and thought not only because it is the arena where the Sufis’ thinking originated but also where the researcher’s personal belief system lies. For the purpose of this thesis, other traditions are referred to as non-Eastern to avoid homogenising varied perspectives in the Western world. Contemporary mindfulness in this context would place itself in the non-Eastern school of thought.

One distinguishing axiom of the Eastern thought paradigm is the acceptance of a “both/and” thinking modality. What this means is that at any given time, two seemingly different factors rather being “either/or” mutually exclusive, can combine to create solutions that accommodate both to transcend an impasse. For example, the notion of “both/and” is embodied in the concept of “Yin-yang”, where two seemingly contrary forces are in fact recognised as interconnected and interdependent. The “both/and” thinking notion is uncommon within many current research paradigms of the social science and humanities communities.

Justification for contemporary mindfulness initiatives tends to be significantly undergirded by scientific evidence-based approach as opposed to the original conception of mindfulness being contemplative practices originating from (eastern) wisdom-traditions (Ergas, 2015). Such scientific inquiry approach is not just prevalent in the mindfulness studies but is the sine qua non of the larger social sciences and humanities research traditions. Within social sciences and humanities, the scientific inquiry has its roots in modern science also known as Classical Science (Wendt, 2015) or classical physics, a non-East conception. Briefly, physics as the branch of

science that is concerned with the physical universe started off with investigating the larger domain of macroscopic planetary objects based on classical mechanics of Newton. Since its inception, Classical Science, grounded upon a physical, material canvas, has been shown to be applicable only in special cases that even in planetary movement, it fails to explain the perihelion of Mercury. At the subatomic structure, the assumptions of Classical Science completely fall apart. Such limitations of classical mechanics led to the advancement of quantum mechanics (also referred to as Quantum Theory) of Einstein and other contemporary quantum physicists as the fundamental theory in providing explanation at the smallest scales of energy levels of atoms and sub-atomic microscopic structure and in explaining the perihelion of Mercury. In short, modern science has now progressed into post-modern contemporary science of the Quantum where the non-physical, non-material reality is the default state (Stapp, 2007/2011). With the advent of Quantum Science, the model of reality of the physical world adopted a new worldview. The behaviour of light as “both” wave “and” particle introduced a new thought tradition of “both/and” probabilistic thinking perspective instead of “either/or” which as mentioned earlier, parallels the Eastern thought tradition. Yet again, the literature on mindfulness has not indicated whether the shift in the scientific tradition from Classical Science into post-modern Quantum Science has been reflected in the contemporary mindfulness inquiry or if it is still bounded within thoughts of Classical Science.

The various gaps discovered in the initial literature as outlined above, form the backdrop to the identification of the aim of this study and the research questions.

1.3 AIMS AND RESEARCH QUESTIONS

In this study, the spirituality dimension of mindfulness encompassing the model of reality which has been predominantly confined to the Buddhist tradition is now extended to the Sufis’ practice. The scientific approach adopted to ascertain the state of the mind-body relationship in contemporary mindfulness investigations and observations also opens the avenue for inquiry in this research to question whether post-modern Quantum Science with its attendant tenets regarding model of reality has influenced the thought of researchers in contemporary mindfulness.

Primarily, this research is undertaken to uncover the position of mindfulness in Sufi Eastern integral intellectual tradition and thought by exploring the nature of reality and the concept of mind in Sufism and contemporary mindfulness; and to explore whether the principles of Quantum Science parallels Traditional Sufism or contemporary mindfulness.

The research aims are achieved through the discovery of answers to the following research questions:

1. What are the underpinning beliefs and axioms on mindfulness in contemporary mindfulness and in Sufism regarding the nature of reality and the concept of mind?
2. How does Quantum Science's view on the conception of mind relate to the beliefs and axioms of Sufism?

1.4 SIGNIFICANCE OF STUDY

The dearth of mindfulness study covering spirituality, more so, from the viewpoint of Traditional Sufism, should place this study high in terms of its contribution to the understanding of the overall concept of mindfulness and its various accompanying properties. The foundational philosophical and practical customs of Sufism as a pathway to arriving at self-awareness and tranquility through self-knowing is in itself an area that has hardly been looked into in educational research, hence another significant contribution. While the investigation on the scientific inquiry is undertaken within the sphere of the mindfulness domain, the findings will be relevant to the wider realm of education research, equally extendable to other areas in social science and humanities. Likewise, the questioning of the concept of mind and nature of reality holds profound impact on future research on mindfulness and related disciplines.

However, it is noteworthy that this thesis does not serve as a provocative tool for the researcher to advocate among educationists and qualitative researcher-practitioners a shift in worldview to that of Quantum Science. What this thesis does is to provide a platform for the researcher to share the results of inquiry from the standpoint of one who recognises the axioms of Quantum Science including its nature of reality and to invite readers to question their own worldview.

1.5 RESEARCHER RESEARCHED ENCOUNTER

The relationship between the triad of “knower-knowing-known” or “observer-observing-observed” in the knowledge and scientific methodology discourse has long been a subject of debate. Nonetheless, as an introduction to the subject, suffice to say that while one school of thought adopts an ideal of knowledge where the known is independent of the knower, the other group holds to an opposing view that the concept of knowledge should be contextual, strongly related to the knower and personal with the path of knowing determined by the knower. Among the scientific community, the Classical Science paradigm upholds the notion of observer being independent and separable from the observed whereas in the post-modern science of Quantum Science thinking, the observer cannot be considered as separable from the observed. The observation is said to be contingent upon the observer’s consciousness, a notion that has often been promoted amongst qualitative researchers. However, Heisenberg, one of the founders of Quantum Science, explains, the term observer in Quantum Science is not used as it is in common language inferring to any type of subjective element in a theoretical description where the observer functions to only “register” decisions. Instead, the observer’s consciousness is needed to “physically” collapse the wave function, resulting in the changing of the state of the object from “potentiality” to “actuality” (as cited in Popoveniuc, 2014). This notion shall be further explained in Chapter 2.

Narrowing to the ambit of qualitative research, Råheim, Magnussen, Sekse, Lunde, Jacobsen and Blystad (2016) raised the issue of researcher-researched relationship in the process of knowledge production. They emphasise the need for the researcher to be aware of the researcher’s position covering among others the impact of research context, perspective and methodological choices *vis à vis* the researched, prior to embarking on the study. This is because the researcher as the knower is intertwined with the process or method of knowing and what is being known, a concept which parallels Polanyi’s (1958/1962/2005). According to Råheim *et al.* (2016), lack of critical awareness about the decision choices might seriously hamper the knowledge claims made. The journey to the arrival at knowledge, is also a non-linear, iterative process that constantly engages the researcher’s thought. This process which is known as reflexivity (Palaganas, Sanchez, Molintas & Caricativo, 2017) is further discussed in Chapter Three.

The concept of reflexivity and self-inspection according to Svozil (2016) is very much related to physics (quantum). Any empirical evidence that is drawn from operational procedures is only limited to what is accessible to the observers and embedded within them. When observers interact with the object, both the state of observer as well as the object inspected are altered (Svozil, 2016). According to Heisenberg, reflexivity of theory is played out in the interpretation of Quantum Science system where “registration” is required for the results to transition from “potential” to “actual” (as cited in Popoveniuc, 2014). This tenet of observer’s subjectivity interacting with the object and vice-versa, in short, the non-separability and intertwined nature between researcher and researched as mentioned earlier, is not one which is recognised within the Classical Science framework where the observer is assumed to be separated from the observed, a subject of further discussion in Chapter Two.

In the context of spiritual mindfulness within the Sufi tradition as the researched subject of this study, the fact that it is about the individual Sufi “traveller” ascending the levels of attainment of proximity to God within a reality that is non-separable from the traveller is itself about a journey where the researcher-researched are intertwined. Likewise, from the bigger perspective of Eastern integral intellectual tradition and thought, researcher-researched-interdependent relationship is a foundational axiom. Again, there appears similitude between the Eastern intellectual thought tradition and Quantum Science.

For the purpose of this research, the researcher having established her positional stance regarding the researcher-researched encounter adopts a hermeneutic phenomenological method for her data analysis and interpretation process, in her quest to investigate the concept of mindfulness in traditional Sufi philosophy due to its principles paralleling the paradigm adopted in this thesis.

1.6 ORGANISATIONS OF CHAPTERS

This thesis is divided into seven chapters. Chapter One introduces the phenomenon of contemporary mindfulness and the issues surrounding it, highlighting the gap in literature in relation to the motivation for this study. This in turn leads to the identification of the research aims and

research questions as well as the significance of the thesis. The researcher's positional stance is also made known in this chapter.

Chapter Two covers the research paradigm, further explaining the researcher's position as well as answering what is Quantum Science and why, when and how it is adopted within this study. It is hoped that by addressing this decision early in the thesis, the foundation for the rest of the study is set more coherently.

Chapter Three outlines the researcher's parameters based on the CETOE (Cosmology, Eschatology, Teleology, Ontology and Epistemology) philosophical model (Hassan, 2016). It also covers the methodological framework of the research as well as the method of inquiry chosen to allow for the emergence of meaning from the data collected. An explanation of how Quantum Science and Phenomenology are used within the boundaries of the study is offered in this chapter.

Chapters Four and Five delve into the main findings of the research, addressing the two key research questions respectively. Chapter Four uncovers the findings which form the background knowledge to support the more specific findings in Chapter Five. For instance, the details of the traditional Sufi order in Chapter Four serve as the foundation to scaffold the findings regarding the concept of mindfulness and the mind within Sufism in Chapter Five.

Chapter Six discusses the parallels between three seemingly separate disciplines of theology, natural science, and social science/humanities through metaphysics as the bridge. It sheds light on how Quantum Science can be the door that opens the pathway for contemporary thought of spiritual Sufism. It also touches on the implications of how understanding the nature of reality as well as the concept of mind in traditional Sufism can contribute to education, simultaneously evidencing the significance of study.

The last chapter ends with the recommendation of possible new areas for research such as those that are more directly concerned with the human, should Quantum Theory be accepted as a paradigm within the social science and humanities.

2 MY PARADIGM OF REALITY AS A RESEARCHER

The term “paradigm” gained popularity through the seminal work of Thomas Kuhn, a physicist and philosopher, regarding the scientific revolution. Kuhn (1962/1970) challenged the then conception of science as a steady progression of new ideas accumulated over time. Instead, he posits that the advancement in science has taken the path of spurts of revolutionary explosions of new knowledge triggered by profound new ways of thought so significant which he called paradigms. Paradigm is taken as to cover what a certain community of scientists for example in “normal science” have in common such as theory, law, application and instrumentation which form the models spurring coherent scientific research traditions (Kuhn, 1962/1970). Normal science, to Kuhn, refers to research firmly based upon one or more past scientific achievements which some scientific communities acknowledge as forming the foundation for its further practice. Paraphrasing, Cohen & Crabtree (2006) define a paradigm as a model on the nature of existence and knowledge derived from a belief system that is shared by a scientific community, guiding how these researchers act with regards to inquiry. In choosing the approach to undertake a qualitative research, Northcote (2012) cautions the messiness and complexity that surrounds the decision so that often, it warrants a paradigm shift. In the absence of the “holy trinity” of objectivity, reliability and validity as espoused by Spencer, Ritchie, Lewis and Dillon (2003) for quantitative research design, Northcote reminds of the recommendation by Lincoln and Guba (2000) of the need for researchers to be guided by the purpose of the research.

Reiterating, having evaluated the existing paradigms opened to the researcher for conducting this research, the researcher adopts the research paradigm of Quantum Science due to its tenets matching the fit-for-purpose of this research.

As highlighted in Chapter One, the view adopted by the researcher regarding the nature of reality is one of “both/and” which parallels the Sufi thought tradition where the nature of reality is recognised as “both” metaphysical “and” physical at once, with the latter consisting of an objective external reality and a subjective truth within the observer (Lings, 1975/1993/1995).

Additionally, in the course of researching mindfulness from the remit of Sufism, the researcher found a large irreconcilable difference between the philosophy of Sufism and the current mainstream research paradigms which are mainly based on two premises: positivist or interpretivist/constructivist and its variants. While both groups view reality differently with the former believing that reality is objective and can be quantified, separating the knower and the known (Kallio-Tamminen, 2004), and the latter viewing the world as subjective and contextual, acknowledging that meaning is socially constructed, thus placing importance on the knower (Sefotho, 2015), they both agree on the subject of metaphysics. Both positivists and interpretivist agree that the question of God's reality should be bracketed out through the principle of 'methodological atheism' (Wendt, 2015). As Jurgen Habermas puts it, "a philosophy that oversteps the bounds of methodological atheism loses its philosophical seriousness" (Wendt, 2015, p.11). This notion then makes it difficult to study Sufism, where the tradition is grounded upon the metaphysical with God at the center of reality. In Quantum Science however, the prospect to bring back the metaphysical and consequently God-based spirituality into the narrative of the research is possible, which will be explained in Sub-section 2.2.2.

Hence, if this thesis was to limit itself to the two extant positivist or interpretive paradigms of research, this study would have been too challenging to be undertaken or if undertaken, will be limited to a language of secularism in its interpretation hence not doing justice to the Sufi tradition. That the main research aim is to investigate Sufi philosophical underpinning inevitably requires this research journey to begin with the searching of other paradigms which can safeguard and preserve the meaning and the axiology of the story that will unravel.

2.1 WHEN EXISTING PARADIGMS DO NOT FIT

The anomaly between the two paradigms in social ontology has been long-standing despite significant disciplinary investment in meta-theory since the 1980s (Wendt, 2015). This has forced both camps to a 'Westphalian Settlement' which has left the foundations of ontology and epistemology untouched (Wendt, 2015). The reason for this, according to Wendt (2015), is due to the inability of social scientists to accumulate deeper theoretical knowledge. This view is consistent with that of Peter Russell (2004), a physicist, who urged the academic community

to consider the fundamental assumptions about the nature of reality. According to Russell (2004), current dominant scientific paradigms assume that the real world is merely physical, and that space, time, matter and energy makes up the fundamental mechanisms of reality.

While interpretivists may not subscribe to the materialistic assumptions of positivism, social life is taken as not to violate the laws of physics. This has resulted in interpretivists to avoid addressing the subject of physical reality in their research and arguments (Wendt, 2015). This avoidance, according to Wendt (2015) ultimately indicate that both paradigms begin from the same point of departure. This “porch” where mainstream extant research paradigms set off from is based on the Cartesian-Newtonian model of science also known as Classical Science/Physics, introduced earlier in Chapter One and further explained in this chapter. As Russell stated, existing scientific paradigms are based on the Classical Science belief and therefore, Classical Science is “more than just another paradigm; it is a metaparadigm - the paradigm behind the paradigms” (2004, p.25).

2.1.1 Mainstream Worldview: Classical Science

To understand how Classical Science became entrenched as the modern worldview, one must first be able to locate the beginning of the fragmentation of values and traditions that has influenced this modern world. Many scholars alike agree that the making of modernity, which began with projects of rationalisation, came together during the Enlightenment in the 18th century (Elmarsafy, 2009). Prior to this, the worldview consisted of an integral one where there was oneness and balance between reason and rationality with intuition, inspiration, insight, instinct & illumination as features for decision-making (Salleh, 2015). Thus, there was no division between knowledge or *Scientia sacra* that arose from moral philosophy, natural philosophy and metaphysics. Scholars and clergies shared similar knowledge groundings. However, in the 16th century with the Copernican Revolution on the movement of heavenly bodies, things began to change. A new radical idea proposed by Nicolas Copernicus came to light which transformed the then prevailing Ptolemaic worldview that assumed the Earth was the centre of the universe to a heliocentric model where Earth, like other planets, rotated around the sun (Hopper, 2009). A hundred years later, this concept was proven to be correct by Galileo Galilei when he invented

the telescope and published his findings in 1623 (Hopper, 2009). This discovery caused a major uproar not just within the scientific community but also with religious authorities as well as the public. It was considered heretical as it questioned the authority of the Church with regards to the truth of the doctrine of Earth as the centre of the cosmos. It was scientifically controversial because it challenged Aristotle's widely accepted system of Scholasticism where truth was attained by citing authority. And it was provocative to the masses not because Earth was not stationary but because of the notion that humankind was now less important and unique (Gleiser, 2017).

This shift in worldview was significant because the transformation in thought reached far outside the scientific debate as demonstrated above. Empiricism became the *modus operandi* for looking at the world. As Willis Harman stated, "What is true is what is found by scientific inquiry to be true. Ultimate authority resides in observation and experiment rather than tradition" (Hopper, 2009, p.4). Yet, while this was happening, the Church's power and authority had not fully diminished despite the Reformation. Therefore, to maintain peace between the scientific community and religious authority, French philosopher Rene Descartes came up with a philosophy of dualism concluding that spirit (non-material) and matter (material) were of two diverse, noninteracting realms (Hopper, 2009). Issues of the unobservable including that of the mind and spirit were left to the Church in what was known as Super-Natural Philosophy and what could be observed was within the realm of Natural Philosophy for scientists (Salleh, 2015). This separation turned science loose from theology. In Natural Philosophy, the world, consisting of physical matter, could be analysed through observation and experiment and explained through the method of Reductionism for nature now no longer bears a relationship to the Transcendent. This meant that the complexity of nature can be understood by reducing them to the sum of its parts or to individual constituents (Kallio-Tamminen, 2004). Additionally, the observer can remove himself from the observed implying objectivity. This notion was further strengthened by Boyle's Law founded in 1662 and Newton's Principia in 1687. Robert Boyle in his experiment with gases, found that their behaviour is always constant in a confined space. He argued that this was possible due to the non-existent of external interferences during the period of the experiment ("Science and the End of Reductionism", 2014). Moreover, Newton's Law of Gravity and the Law of Motion, which explained motion and mechanics, demonstrated that there is causal relationship between matter and that matter will behave the way it is meant to regardless the observer. This meant that natural reality was similar to a clockwork mechanism

subjected to exact eternal laws. This axiom completed the idea that all happenings in ‘reality’ is physical matter moving in space-time, a concept also known as Materialism (Walia, 2016). These assumptions made up Classical Science.

2.1.2 Classical Science Only a Special Case

Through Reductionism, scientists believe that by taking matter apart they would be able to better understand how these pieces fit in the universe. Observation and experiment using deductive reasoning became the method to explore this matter. What they found in exploring matter were smaller and smaller parts such as the existence of the predicted atom (Hopper, 2009). Hence, up until the 19th century, scientists and philosophers believed that the physical aspects of reality were entirely determined by the predetermined laws of Nature (Stapp, 2007/2011). Science became materialistic and deterministic. Therefore, Classical Science ultimately implies a materialist ontology where reality is made up of only matter and energy which behaves predictably based on what went on before (Wendt, 2015). Essentially, the universe, in Classical Science, is accepted to consist of matter in motion following a deterministic path, where at any time, the physical world is entirely determined hence predictable by the state at any earlier time (Stapp, 2007/2011).

Matching the mechanistic model of the universe, humans are viewed as automaton. This is because human’s action was also taken as determined by mechanical conditions where conscious intentions has no role. The human was seen merely as spectators of the observation of empirical phenomena.

However, when discovering matter at the very small sub-atomic level, scientists started becoming perplexed as things were no longer behaving in a predetermined manner. This puzzlement began in 1803 when Thomas Young, an English scientist, conducted an experiment known as the Double-Slit Experiment, to test the predominant belief that light takes on the form of a particle (Hopper, 2009). His findings showed that light was both particle and wave depending on the apparatus used to observe it. This dual nature of light became the start of a profound shift in conception of the basic nature of their endeavour for physicists (Stapp, 2007/2011).

The outcome from Young's experiment stirred the need for scientists to further explore the dual nature of light. By the beginning of the 20th century, many experiments on this matter were conducted to even more bewildering results. Scientists now found that not only do light particles interfere with itself, it also only acted like a particle when observed (Hopper, 2009). If left on its own, light behaved like a wave, signifying the probability of every potential positions. This meant that the mind or consciousness of the observer can in fact, affect the behaviour of the observed (Stapp, 2007/2011). This behaviour, now called the "Observer Effect", shook the scientific world as what was previously thought to be causally closed for almost 300 years had been revealed to be incorrect at the fundamental level. It violated the basic principle of objectivity in Classical Science: the observer can no longer bracket himself out without interfering with the results of the experiment.

While the quantum revolution brought along axioms of physical laws that defy earlier Classical Science especially in the profoundness of the human consciousness, at the macroscopic level nonetheless, it is shown that the theories of Classical Science/Physics are still applicable. What the contemporary physical science of quantum has done is to demonstrate the limits of Classical Science as a special case rather than the general theory of science

2.2 SHIFTING TO QANTUM PARADIGM

By the mid-20th century, the wave/particle nature of matter continues to be rigorously tested. Scientists, such as Werner Heisenberg and Erwin Schrödinger, found that at the sub-atomic (quantum) level, matter remains in a state of indeterminacy until it is observed (Hopper, 2009). Known as 'The Uncertainty Principle', it demonstrated that an observer can either know where an electron is or what it is doing, never both at the same time (Richardson, 2015). At the point of not knowing, the electron is in a state of 'Superposition'; a state of potentiality between an idea of a thing and the actual thing (Russell, 2004). This too showed the effect of the non-material consciousness in an alleged material world.

The behaviour of the above quantum properties of indeterminacy was predicted through an equation established by Schrödinger. This equation also forecasted another bizarre property at

the quantum level where two bits of matter such as photons, could behave in the same manner even after being separated (Kallio-Tamminen, 2004). This means that once detached, these subatomic particles continue to retain a connection regardless of distance in space or time, a behaviour known as ‘Entanglement’. This principle was revolutionary as it violated the prevailing accepted fundamental tenet of that time: Einstein’s ‘Theory of Relativity’ where nothing can travel faster than the speed of light (Hopper, 2009). Einstein disapproved of Entanglement and along with a few other physicists with the same outlook, went in so far as to publish a paper now known as the ‘EPR Paradox’ to show that since the equation demonstrated a behaviour of ‘non-locality’, meaning that the separated particles would instantly behave in the same manner therefore travelling faster than light speed, Quantum Mechanics (what this branch of physics is known as) must be incomplete (Kallio-Tamminen, 2004). This unfavoured behaviour was referred to as ‘spooky action at a distance’ by Einstein (Bodanis, 2016). With the onset of better equipment in experimental physics in the late 20th century, Entanglement was proven to be correct and therefore, Einstein’s theory of locality, untrue.

The unacceptance of Einstein of the quantum phenomena in the 20th century, which many contemporary scientists called his greatest mistake, mirrored many scientists during the time. Yet, it is important to note that proponents of Quantum Mechanics (also known as Quantum Science or Quantum Physics), such as Werner Heisenberg, Niels Bohr and Wolfgang Pauli, did not take the abandonment of the physical ontology frivolously. To accept that the meanings of their mathematical formulas “to be directly about the knowledge of human observers rather than external reality” was an extreme last resort for these renowned scientists (Stapp, 2007/2011, p.13). As Stapp puts it, Quantum Science has forced “a wholesale revision of the entire subject matter of physical theory by the peculiar character of the new mathematical rules, which were invariably validated by reliable empirical data” (2007/2011, p.5). Therefore, Quantum Science, also known as contemporary or post-modern science, is ultimately the scientific study of the behaviour of subatomic particles that defy the logic of Classical Science and requires its own model of understanding reality (Richardson, 2015). Table 1.0 below demonstrates the differences between Classical Science and Quantum Science.

Table 1. *Differences between Classical Science and Quantum Science*

Properties	Classical Science	Quantum Science
Reality	Objective External Physical Reality	Non-Duality: Physical-and-Personal Reality
Matter	Material	Massless, In a State of Potentiality
Universe	Mechanical Clockwork, Pre-determined	Indeterministic, Probabilistic
Space & Time	Absolute Space & Absolute Time as Backdrop	Spacetime as Subject
Subject & Object	Separated & Separable	Entangled, Non-separable
Human	Discrete, Stand-alone & Independent	Relational

2.2.1 Quantum Science and Its Interpretations

As mentioned earlier, according to Thomas Kuhn, the process of a great paradigm shift begins when an existing paradigm encounters an anomaly; something that cannot be explained by the current worldview. In this case, the anomaly in modern science was the classification of light.

Over the years, quantum mechanics has seen many interpretations to explain how the mathematical theory corresponds to reality. The measurement problem is seen as an issue in itself. Although, there is still much to be found and deciphered in Quantum Science, current data concludes that quantum systems inherently display wave-particle duality, indeterminacy and entanglement (Russell, 2004).

The wave-particle duality, also referred to as complementarity, demonstrates the necessity of an observer for all physical phenomena to arise. It shows that the unstated assumption of objectivity where human intention cannot affect physical reality to be untrue, placing centrality on the observer instead of the observed.

The state of indeterminacy and Superposition, where everything exists in a state of concurrent infinite potentiality, reveals the indeterminacy of reality which is the gist of the Copenhagen Interpretation, the most commonly taught expression and textbook presentation of Quantum Physics (Gomatam, 2007). Entanglement and non-locality illustrate the interconnectedness of the universe. These qualities infer to the inapplicability of physical laws of Newton's macroscopic world in the quantum world. And since the macro is fundamentally made up of the very small - atoms, electrons, photons and other such particles - it is virtually impossible to ignore the effects of Quantum Science in the universe, thus reality. Scientists, therefore, have been forced to search for a new language to describe the probabilistic and non-empirical processes of the universe (Schrödinger, 1951/1952/1961/1996/2014). This language fashioned a new reality in how we describe, understand and relate to the world, a reality that demands intellectual and academic openness (Richardson, 2015). This reality is referred to as the Quantum Paradigm in this thesis, as propagated by Wendt (2015).

To summarise, Quantum Scientists accept the essential role of the observer, where matter remains in a state of indeterminacy until it is observed, and that subatomic particles continue to retain a connection regardless of distance. This led to the acknowledgment of the role of consciousness in physical science, a feature that is complex in its nature. It was also because of this complexity that a division between quantum scientists ensued (Rosenblum & Kuttner, 2011). Majority of quantum scientists took on the challenge to further understand consciousness, while another group took the position to leave areas of consciousness alone and only focus on the

mathematical equations of Quantum Science. Simply put, to just ‘Shut up and Calculate’ (Mermin, 1989). For those that delved into the mysteries of consciousness, they too were split: one group believed that consciousness emerges from matter, mainly the brain which neuroscience is a branch of, while the other subscribes to a non-physical origin of consciousness. The latter argued that to assume that consciousness is an emergent property of matter is to subscribe to a materialist point of view, and matter, according to astrophysicist Adam Frank (2017), is materialism’s fatal flaw. He explained that physics cannot tell what makes matter “matter” as what can be observed is only what matter “shows” us. This unknown substance of matter resulted in physicists referring to it as “stuff” of the universe to avoid matter being seen as solid (Davies & Gribbin, 1992/2007). Ultimately, this points to the notion that the “stuff” of universe has its base in a non-material realm of an “indivisible, interconnected wholeness” which parallels spirituality (Richardson, 2015, p.15). Thus, it is with this group of quantum scientists, such as Erwin Schrödinger, Werner Heisenberg, Wolfgang Pauli, David Bohm, Amit Goswami and more, that this thesis is situated.

2.2.2 Spirituality withing Quantum Science

Materialism had relegated religious and metaphysical knowledge into the realm of the superfluous in the non-East due to its non-empirical nature (Richardson, 2015). This was evident in Augustus Comte’s Law of Three Stages where the highest type of knowledge was one that was scientific in nature, referring to the properties of Classical Science. However, in a post-Newtonian world, the ultimate questions posed by scientists seem to parallel those raised by theologians. The response reveals mutual destinations in both paths (O’Leary, 2002).

According to Stapp (2007/2011), Quantum Science is intrinsically psychophysical as it ultimately explores the structure of our experience, founded upon a radical mathematical generalisation of the laws of Classical Science. By putting human at centre stage, Quantum Science delves into the very essence of the non-empirical: of consciousness and of life itself (Goswami, 1993). This is referred to as the Quantum Enigma by Rosenblum and Kuttner (2011). This notion is further reinforced by Lothar Schäfer and Sisir Roy (2008) and Hopper (2009) who stated that Quantum Science establishes:

1. the discovery that the physical reality constitutes the non-empirical through the existence of a realm of potentiality - without consciousness, 'matter' continues to dwell in an undetermined state of probability;
2. that the empirical world emanates from a realm of non-material forms - space and time are not absolute realities, our external and internal perceptions are indistinguishably intertwined, all objects and particles are inseparably connected to the presence of an observer;
3. that the quality of physical reality is of an indivisible Wholeness elucidating to the One; and
4. the possibility of a 'Cosmic Consciousness'.

Moreover, Quantum Science elucidates to the notion of two 'very real' physical realities: the external reality and a personal reality of the reconstruction of the world that appears in our consciousness (Russell, 2004). These realities were explained by Schrödinger (1951/1952/1961/1996/2014) as well as Chomsky (1980) and for the purpose of this thesis, shall be described through the analogy of a tree. There are two types of trees, the Physical Tree and the Psychological Tree, both of which exist in the physical realm. Upon seeing a tree, an observer can only discern two things: what he makes of the tree and what the tree tells you- but he will never know the tree in its essence. He sees the tree (Physical Tree) as well as imagines it (Psychological Tree), yet both come from the same elements- "the stuff" of the universe, ultimately representing oneness. Yet, it is also dual, for the Physical Tree comes from the outside, while another is conceptualised within the observer. For Schrödinger, the Physical Tree is an epistemological tree and the Psychological Tree, an ontological one. So, the question then arises, how does one study the tree when now there are two trees, one coming from the ontic, the Intellectual Self thinking of the tree and the image of the tree, and the other one from touching the tree. Supposed now there are twenty other people touching the tree, does this mean that the Psychological Tree of mine as "I" and other "Is" are the same? Schrödinger explains that the Physical Tree is the same, but not the Psychological Tree, demonstrating the complexity of its nature. It also reveals that the manner in how the observer sees (through experiment) the tree is consequently based on his ontic state. This means that no two people will ever see the same tree. Schrödinger calls this state as blurring; how one views the tree is contingent upon how one collapses the wave function. At this juncture it is essential to clarify that all things within the physical realm are ultimately wave functions, including humans. Therefore, physical reality is ultimately influenced by consciousness and this consciousness is both classical and quantum

mechanical in its features (Goswami, 1993). As O’Leary concludes, Quantum Science is “a science of consciousness, in line with major spiritual practices and religious beliefs of the world” (2002, p.32).

2.2.3 Quantum Paradigm in Social Science

As was explained earlier in this chapter, the modern world is a product of Enlightenment. It was during this movement from its origins in the 17th century to the consolidation in the late 19th century that saw the composition of disciplines into what would become the precursors to the modern social sciences which are deeply influenced by Classical Science (Elmarsafy, 2009; Gleiser, 2017). Majority of the founders of social sciences – Hobbes, Hume, Smith, Comte, Jevons, Walras, Marshall, Pareto and others- frequently borrowed from the properties of physics which was the most successful and prestigious science of the day (Wendt, 2015). This chronology of the split of disciplines and locating where social science is to this present day is demonstrated in Figure 1. Despite Quantum Science having made its debut in the early 20th Century, modern social science has not embraced the shift in thought whether of the properties of the physical universe nor about the participatory role of human as observers of phenomena of the universe. Humans are viewed as social atoms to depict its pattern of behaviour as material objects. This classical view of the human, according to Russell, has resulted in the inability of the academic world to fully account for consciousness (2004). Therefore, according to Wendt, it becomes necessary to rethink reality and consequently, human actions, by calling into question a foundational, taken-for-granted assumption that social life is governed by Classical Science by adopting a Quantum Paradigm as encouraged by William Bennet Munro in 1927 (Wendt, 2015).

In respect to this thesis regarding mindfulness in education, perhaps the scenario could be different should social scientists allow themselves to shift in their perspective of science. And for this to have taken place, a more open stance towards questioning existing worldview and recognising alternative interpretations would have been helpful. Perhaps too, the spiritual dimension of mindfulness may not have received an outright rejection. Quantum Science has established the centrality of human consciousness in determining the outcome of an observation so

that what is observed is not nature itself, but nature exposed to the method of questioning (Heisenberg, 1958/1962/1989/1990/2000). Bohr took the stance to posit that it is wrong to say that it is the task of physics to explain what nature is. Physics concerns what we say about nature. The work of Schrödinger (1958) accenting both “*Geist und Materie*” recognises the internal non-material and external material dimensions of human as explained earlier. Given that it is the foundation of quantum theory that has made possible many of the modern world technological advancements including the microchips for computers, the mobile phones, the magnetic resonance machines for scanners and many others, it is about time that the profoundness of the model of reality advocated by quantum theory is explored. This thesis is a contribution to the abyss.

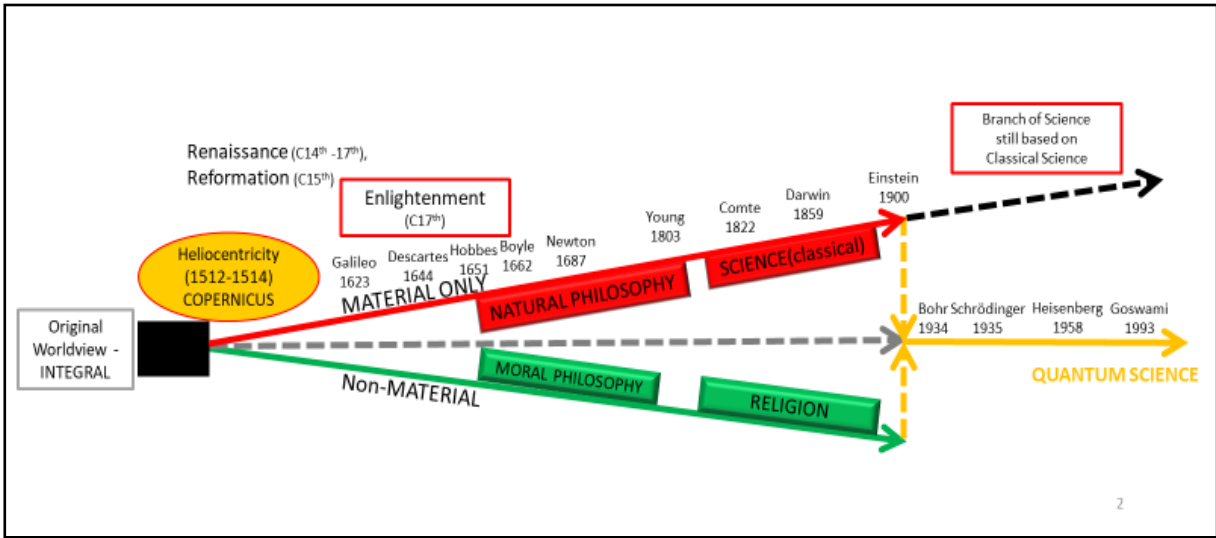


Figure 1. Timeline on Bifurcation of Knowledge. Adapted from A. Salleh, 2015.

3 METHODOLOGICAL CONSIDERATIONS

In Chapter Two, it was mentioned that an observer will never truly know the essence of the tree, only what it tells him. For Schrödinger (1958), this property meant two things: first, the observer must see what the tree is telling him; and secondly, for the observer to “see” behind the phenomenon, it is a prerequisite for him to know himself. And since the observer’s role affects the outcome of the observed, there is no longer severance between ‘observer’ and ‘observee’ that is, the ‘observed’. As far as ‘how physical things work’ is concerned, the Classical Newtonian worldview is the exception, not the rule. Following on reminders of the need for researcher to be aware of the researcher’s position covering such areas as impact of research context, perspective and methodological choices *vis à vis* the researched, prior to embarking on the study as raised in Chapter One, in this research, the position of the researcher as taking central position and entwined with the researched is declared. It is in keeping with that spirit of the research, that this thesis shall be written using a first-person narrative from this point on as a service to the non-separability of subject and object. Aptly, this chapter begins by first introducing my philosophical parameters to make aware the underpinnings of thought that shapes, metaphorically speaking, how I see the tree.

3.1 RESEARCHER’S PARAMETERS

The manner in how I view the world can be expounded through the philosophical model proposed by Hassan (2016) known as the CETOE model as shown in Figure 2.

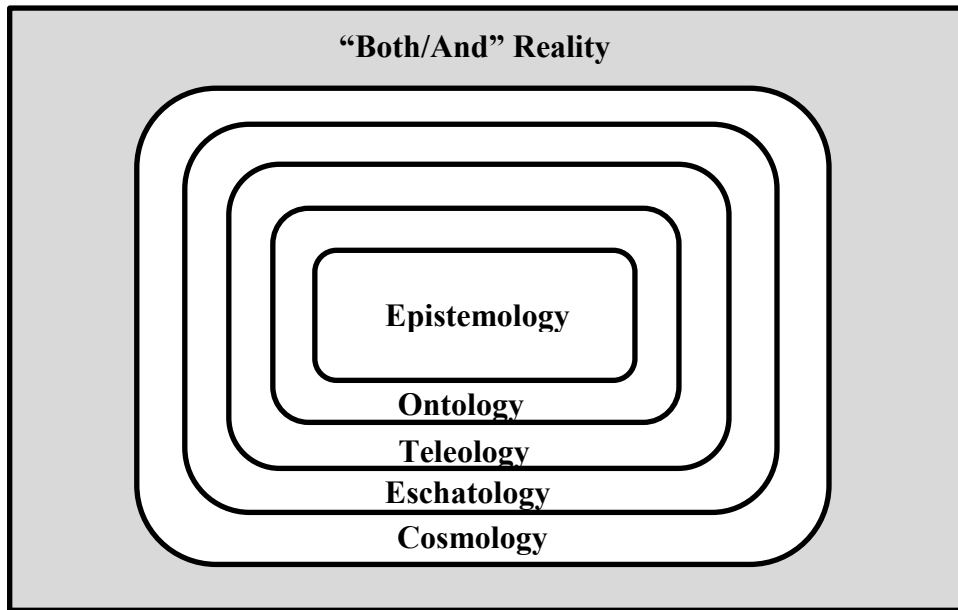


Figure 2. The CETOE Philosophical Model. Adapted from I. S. Hassan, 2016

The Cosmos for me, refers to the existence of both the seen and unseen universe, not just the physical Cosmos. I believe that the cosmos in its entirety consists of a metaphysical realm that is both separate yet interconnected and intertwined with the seen universe. The seen universe, additionally, contains “truths” that will remain unknown/unseen, and everything originates from the same, one, source, a Transcendence.

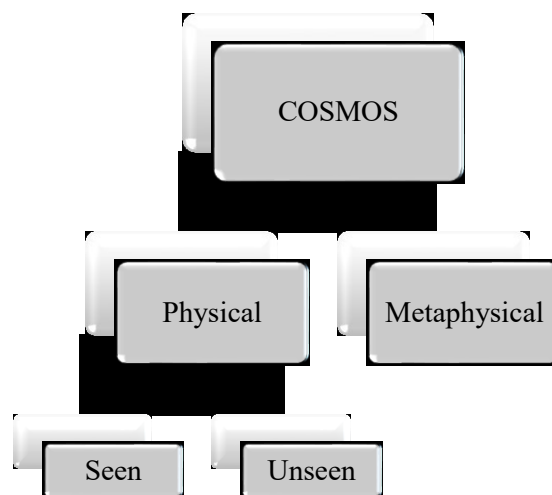


Figure 3. Personal View on the Hierarchy of the Cosmos

It is in the belief of the Transcendence that my next parameter is based upon. According to the *Merriam-Webster Dictionary* (n.d.), eschatology refers to the belief regarding “death, the end of the world, or the ultimate destiny of humankind”. In this regard, I believe that while the physical world ends, the metaphysical will continue in a final “Hereafter”. This includes humans, as we are metaphysical in essence. Accordingly, I do not subscribe to the theory that human evolved from apes but instead, we are accorded special attributes that makes us different from animals. Therefore, my teleological stance is that the purpose of humans in this physical world is to learn to live with innate attributes of God-consciousness, conscience and intellect to build or maintain relationships with himself, other created beings including other humans, the environment and with the Creator Himself. At this juncture, I would like to clarify that God is referred to as He in this thesis and in Traditional Sufi literature as the English language does not have the equivalent of a gender neutral second-person term to denote ‘the One’ that the Arab language has.

This view leads to the premise that reality is inherently metaphysical, integral and “both/and” and thus, my ontological point of departure. This stance parallels that of Quantum Science where stable, objective reality at the subatomic level is shown to be false, suggesting the same for us humans: that we cannot be separated from our context at any given moment. As Wendt puts it, “what is being registered is not a state of the world independent of the observer, but a state of consciousness in relation to a world with which it is entangled” (2015, p.235). In addition, Quantum Science supports the notion that there is an unseen realm within the physical external reality and that it makes up majority, if not almost all of the external world (Russell, 2004). As Russell (2004) explains, our eyes are only able to detect a very narrow frequency range of 430,000 to 750,000gH, approximately 0.0035%, of the light spectrum, demonstrating that subjective experience is key in arriving at meaning. Quoting Bishop Berkeley, Russell (2004) explained that a falling tree would not make a sound should there be no one to hear it as sound occurs as an experience to the perceiver. Its physical objective attribute only exists as pressure waves in the air.

Following on from the above parameters, my epistemological stance is one that accepts both observed and revealed knowledge. In combination, the CETOE parameters makes me who I am as an individual and researcher and thus, I recognise that the act of knowing is an iterative, reflexive process which has implications to the phenomenon being investigated. Consequently,

the research journey has been one that required for me to observe contemplative and reflective practices to be able to allow meaning to reach me truthfully, paralleling many of the Sufi tenets.

3.2 HERMENEUTIC PHENOMENOLOGY AS METHOD

According to Ellen & Ellen, methodology is the manner in how we obtain knowledge about the world in “an articulated, theoretically informed approach to the production of data” (1984, p.9). Recognising my philosophical parameters, I had chosen hermeneutic phenomenology as the methodology to arrive at the meaning of the phenomenon I wish to understand, using the axioms of Quantum Science. The direct injection into the dynamics of how things will act according to certain choices made by human actions, consequently unifying the observer and the observed, no longer call for objective evidence or the need to reveal the ‘real’ essence of a phenomena. Instead, as Niels Bohr (1962) stated, the description of nature, and thus reality, is to only uncover, as far as possible, relations between the varied aspects of our experience (Stapp, 2007/2011). Similarly, phenomenology is the study of experiences that seek to uncover human experiences as lived, understanding that ‘lived experiences’ are subjective and conscious, consisting of multiple realities (Sloan & Bowe, 2014). Since this thesis is a study of the phenomenon on the position of mindfulness within the Traditional Sufism, a tradition that places importance on the lived experiences of the Sufi seeker, it was only appropriate for me to adopt this methodology as a means to analyse and interpret data, given its similarities between the phenomenon being studied as well as the axioms of Quantum Science.

Many scholars pinpoint the onset of phenomenology through Edmund Husserl. Like many critiques of scientism, Husserl who had studied mathematics, physics and philosophy saw that, standing on its own, Western (classical) science cannot fully comprehend what it means to be human, prompting to the disintegration of civilisation (Groenewald, 2004). He asserted that objects cannot exist independently in the external world and that the information regarding the object is only reliable if the views of the individual experiencing it are taken into account. In his view, phenomenology was about “the relation between consciousness and ‘objects of knowledge’ with an emphasis on the objects” (Sloan & Bowe, 2014, pg. 1296). To do so, the observer must transcend the phenomena to be able to truthfully describe the essences of the

phenomena investigated through a method of ‘bracketing’. As Lings stated, no hierarchy can be fully understood except by those at its top (1975/1993/1995). As a result of viewing the phenomenon from a dimension above, the observer is able to suspend personal prejudice through ‘pure consciousness’, resulting in the ability to achieve a single descriptive account of the phenomenon (Kafle, 2011). He referred to this as *Lebenswelt* or Lifeworld, the reality of perceived nature constituted by moral, social, political and religious intentions (Heelan, 1991). Principally, it is the rejection of the widespread culture that science is objective, and it alone can explain reality that is unaffected by bias, myths, politics, history and social constructs. And since scientific accounts are objective, then according to Husserl in his book *The Crisis of European Sciences and Transcendental Phenomenology*, phenomenology must regard them as not (1936/1970).

During the last decades of the twentieth century, phenomenology evolved into a mature research methodology due to the seismic shift in research from deductive quantitative research to inductive research (Tuffour, 2017). Husserl’s student, Martin Heidegger, was a forerunner in turning phenomenology’s philosophical roots into a methodology, known as hermeneutic phenomenology (Sloan & Bowe, 2014). According to Heidegger, reality is more complex and situationally different as it is individually constructed. Because of this, Heidegger suggests that realities are multiple, hence, acknowledging the possibility of many perspectives within a phenomenon (Kafle, 2011). Therefore, it is impossible to “bracket out” the observer, as previously suggested by Husserl.

Like Husserl, Heidegger viewed the process of knowledge making as only possible through subjective experiences and insights of individuals (Kafle, 2011). However, unlike Husserl, Heidegger believed that the world is already full of meaning (Goble & Yin, 2014). In this regard, my preference lies in Husserl’s explanation that it is the human that interprets meaning. To understand the reason behind this preference, let us revisit the metaphorical tree that was first introduced in Chapter Two. According to Chomsky (1980), mutually exclusive languages must be used to understand the analogous Physical Tree and Psychological Tree. When I look at the tree, it requires the application of what shall be referred to as the Language of the Self in this thesis based on multiple writings in Quantum Science including that of Schrödinger, to understand the Psychological Tree. What the tree is telling me, on the other hand, is based on the Language of Physical Reality. When these two languages meet, they are in tension, because

each is explaining a tree in a different category. Meaning in my perspective, can only come from the Language of the Self based on the Psychological Tree, which is Husserl's Lifeworld. Heidegger, in my view, does not express these differences explicitly. On this context, I would also like to further explain why I had chosen to adopt a Quantum Science paradigm in this research, as opposed to adopting other available 'paradigms' under the interpretivist umbrella. Although interpretivism does not necessarily refute the existence of the physical world, its theories often emphasise the subjective, unseen aspect of reality. While positivism ignored subjectivity, interpretivism sidelines the physical objective world. Therefore, like positivism, interpretivist paradigms do not holistically represent reality as understood in Sufism. Quantum Science on the other hand, offers a more complete representation of reality, of both the Physical and Psychological Tree, while at the same time provides an approach that is supported with a distinct methodology. For example, regardless of Heidegger's efforts at turning phenomenology into a methodology, there is little consensus of what that methodology constitutes (Tuffour, 2017).

According to Kafle, hermeneutic phenomenology offer only guidelines to conduct research such as "commitment to an abiding concern, oriented stance toward the question, investigating the experience as it is lived, describing the phenomenon through writing and rewriting, and consideration of parts and whole" (2011, pg.191). It is for this reason of not having proper method and its lack of standardisation, that phenomenology is often criticised as not being 'scientific' (Tuffour, 2017). Physics on the other hand, has a distinct mode of inquiry based upon measurements (Smith, 1995/2005). Yet, although well-known for its standardised methodology for knowing and the workings of nature, unlike Classical Science, standardisation refers not to the uniformity of interpretation, meanings, or conclusions in Quantum Science, but only to the steps. Measurements produce numbers which must then be interpreted 'subjectively'. Nonetheless, as previously acknowledged in Chapter Two, there are divisions of Quantum Scientists who choose not to delve into the subjective realm. Yet, despite this nonalignment, the arena of Quantum Science through the Copenhagen Interpretation provides room for both the Physical world and the Lifeworld to co-exist simultaneously, placing equal importance on both realities. Thus, I chose to adopt Quantum Science as my research paradigm not only because of its axioms that parallel my own and Sufism, but also due to the recognition of the obsession of the mainstream academic world with measurements and standardisation. Additionally, this research

employs hermeneutic phenomenology as the approach for data collection, analysis and interpretation, understanding that to arrive at meaning is an iterative process that requires introspection.

According to Goble & Yin (2014), hermeneutic phenomenology begins with the identification of a phenomenon as a means to understand shared experiences, in this case, the position of mindfulness within the Sufi Tradition. Data is then collected using purposive sampling derived from The Quran, writings by Sufi scholars, texts on Quantum Science and contemporary mindfulness as well as an in-depth personal conversation. In this study, both primary and secondary sources were used which shall be clarified in Section 3.3 of this chapter. The sample size does not have to be large as the data is generated through different unstructured and in-depth methods such as conversations (Groenewald, 2004). At the point of data analysis, the hermeneutic circle is used as a reflexive process. This reflexive process ensures that I am conscious and reflective about the manner in which my position, methods and questions might influence the data and thus, the knowledge produced in the research (Sloan & Bowe, 2014, pg.1302). However, in line with my ontology, I accept that who I am as a researcher will impact the data and knowledge produced and that this is a perfectly acceptable stance in Quantum Science through the participant-observer effect. As part of the analysis, I manoeuvred within this hermeneutic circle, constantly reading and re-reading the data in an iterative manner, reflecting on the essential themes of the phenomenon through descriptive writing and interpreting the meaning of the data. This back and forth movement acts as a means for me to better understand the text from the viewpoint of its authors as well as my own understanding of the individual text with reference to the whole study.

In Chapter One, it was explained that this iterative process in qualitative research of how researchers shape and how they are shaped by the research itself is known as reflexivity (Palaganas et al., 2017). Analogous to the Observer Effect in Quantum Science, reflexivity is a methodological issue in social sciences (Popoveniuc, 2014). It ultimately recognises the active role that the researcher has in the research process which requires a level of consciousness through self-awareness (Palaganas et al., 2017). On this research journey, I maintained an awareness of the changes brought about in myself through the research process and findings, and how this, in turn, has affected the subsequent research process.

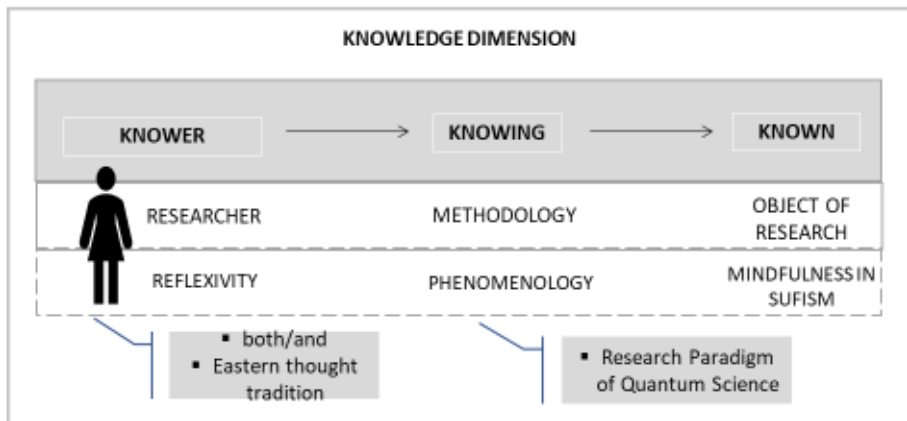


Figure 4. Researcher's Knowledge Dimension

3.3 DATA

3.3.1 Data Selection

As described in the preceding section, the primary data for this research is derived from various sources, both primary and secondary, consisting of texts and multiple in-depth conversations.

The primary sources consisted of various forms of sources mainly texts written by Traditional Sufis, Quantum Scientists, and Mindfulness Practitioners as well as the Quran and in-depth conversations. According to Gibson (2018), primary sources in social sciences include first report of research, observations, interviews and personal narratives. The Quran, naturally, is a primary source especially given my epistemological belief in revealed knowledge. Additionally, I have taken texts by Sufi scholars as a primary source as they are often written in a first person's perspective. Journalising their lived-experiences and thus often intimate, Sufi texts in my perspective, are comparable to a private conversation between the Sufi and the reader. At the same time, I have also included texts written by prominent Quantum Scientists and leading contemporary mindfulness practitioners as primary sources as these scholars truly believe in what they espouse and more importantly live it, as in the case of Schrödinger, Pauli and Heisenberg and Jon Kabat-Zinn.

Secondary sources were texts from books, articles and journals in various fields of Contemporary Mindfulness, Quantum Science, Classical Science, Psychology, Philosophy and Theology. I also included Sufi texts relating to those that cite Sufi works as opposed to ones being written by Sufi scholars themselves as secondary sources.

These sources were selected purposively to meet the needs of the research. The Quran was selected on the basis that its foundation is what grounds Traditional Sufi tenets. The Sufi texts chosen were those written by prominent Sufi scholars both from the earlier periods to present day that subscribes to the holistic tenets of Traditional Sufism. Clarification of what constitutes Traditional Sufism will be covered in Chapter 4.0. The texts of contemporary mindfulness and Quantum Science were chosen from the works of those who are authorities in their own disciplines.

Additionally, multiple in-depth conversations were conducted with one primary source, Professor Dato' Dr. Aziuddin Ahmad, on the basis that he is a quantum physicist by training who understands living life whether in the professional, corporate or personal setting of today founded upon the meaning of human according to Sufi tradition. Sufism, which is about the path to ascension to God, emphasises awareness of one's metaphysical state. Given that most human sciences and other disciplines of science are not known to declare their acceptance of the principles of quantum physics, the search for a scientist in this study is narrowed to one who understands the metaphysical reality within the Quantum Science school. In the international arena, a French astrophysicist Bruno Guiderdoni and practising Sufi would be another additional useful source person as he is known to share his viewpoints on science and Sufi spirituality in various writings and interviews. But given that I do not have access to him, this research limits itself to just one primary source. Guiderdoni's written work, nevertheless, is included as a primary source.

3.3.2 Data Collection

I had begun collecting data at the onset of my research journey via purposive sampling or deliberate selective sampling where I had originally read over 200 texts consisting of books, journals and articles that transcended various disciplines covering the topics of Contemporary Mindfulness, Traditional Sufism, Theology, Philosophy, Psychology, Quantum Science and

Classical Science. At this stage of the research, a lot of my time was spent on the texts, revisiting them twice at least in order to first understand the overall gist and secondly to underscore key themes. As such, the first cycle of data collection was rather coarse as compared to the second cycle which was more focused. This led to the sample being downsized as a result from the refinement of themes identified to the point of saturation. This point of saturation was achieved upon me realising that there was a recurring pattern in the themes, thus, not uncovering further new information. The final sample of data from texts of both primary and secondary sources was reduced to 153. A list of data derived from these literatures is included in Appendix 1.

In addition to the texts, data in the form of an in-depth, intimate conversation with a living Sufi was collected through multiple sessions averaging about two hours per session. The purpose was to engage in the Sufi seeker's personal lived-in experience of his Sufi journey as well as to clarify any ambiguity I had in my understanding of the vital tenets of Sufism which may affect my interpretations. See Appendix 2 for dates and length of these personal conversations.

The reason for the multiple sources was due to Creswell (2009) stating that researchers are strongly encouraged to have many sources and forms to ensure reliability and validity of research. All data collected were transcribed into Microsoft Excel using a matrix system.

3.3.3 Data Analysis and Interpretation Process

The data was analysed using the hermeneutic circle in order to work my way through and extract the multiplicity of complex conceptual structures in a challenging theme hence making the entire process abductive and iterative. According to Heelan (2014), each hermeneutic cycle consists of four phases: experiencing or observing, theory-making, theory-testing and deciding. Each phase gives access to new insights and each cycle leads to a partially transformed beginning of a new cycle of inquiry until these basic queries have been satisfactorily explored (Heelan, 2014). An average of eight rounds of hermeneutic cycle were conducted, with some texts less than others depending on the complexity of the text and field of research. The purpose was to uncover a pattern amongst these texts to enable me to analyse the strata of meanings within them so as to convey these meanings in a suitably thick description. The significance of

uncovering patterns is explained by Leung who believes that “to make sense of and recognise patterns among words” is the essence of qualitative research as it facilitates in building up a meaningful overall picture without jeopardising its richness and dimensionality (2015, p.324).

The following is a step-by-step account of my data analysis and interpretation process. Based on Heelan’s explanation, step 1 relates to the observation phase, step 2 the theory-making phase, step 3 reflects theory-testing and step 4 is the deciding phase. These make up one cyclical round.

1. Raw data is collected from each text based on and placed in a matrix.
2. Meaning of data is reflected upon.
3. Similar emergent themes within the data are identified such as the concept of mind, consciousness, and the narrative of human. A resulting list with categories was then created based on this pattern summarising what each author had said about the themes identified.
4. These descriptions are then placed in order of coherence with regards to the structure of the narrative of this thesis.
5. Texts are revisited to ensure that additional vital themes are not missed.
6. New themes previously missed are added in the main matrix in order of coherence based on categories.
7. Steps 5 and 6 are conducted again to the point of saturation. At this point, in-depth conversations with primary source previously identified begins to take place. Data from these conversations are transcribed and then cross-checked with data from texts to ensure similarities of interpretation. Discrepancies or ambiguity are verified with the source again.
8. Entire matrix is analysed and meanings reflected upon. Any non-vital themes, those that do not relate to the research questions, are removed. Appendix 3 displays an example of a matrix based on a category.
9. Remaining texts are revisited to ensure that the data interpreted corresponds to the overall narrative of the analysis.
10. Conclusions are made. At Steps 8 and 9, the in-depth conversations are used as a validity check to my interpretations.

In the course of my research journey, I was made aware of the importance of language especially with regards to the investigation of a phenomenon under phenomenological lenses by

Schuster (2013). It was suggested that the researcher must determine the language used prior to conducting analysis as it has a profound influence on the research outcome (Schuster, 2013). Failure to correctly apply language results in the failure to convey meaning appropriately, thus implying an unawareness of proper perspective of the real and true situation which ultimately involves the worldview being projected (Al-Attas, 2005). Hence, at the point of data interpretation, I was conscious upon which language each text adopted based on Schrödinger's Language of Physical Reality and Language of the Self to ensure that I did not use a text utilising Language of Physical Reality to explain a Psychological Tree.

3.4 VALIDITY, RELIABILITY, QUALITY, RIGOUR & TRUSTWORTHINESS

The issues of reliability and validity have been major areas of concern in research, both in quantitative and qualitative studies, as researchers are required to ensure that their studies are credible (Golafshani, 2003). Reliability and validity in qualitative studies are viewed as connected in that reliability is a consequence of validity in the study (Golafshani, 2003). According to Lincoln and Guba (1985), because of this connectedness, it is sufficient to merely demonstrate validity in a qualitative study to establish reliability (Golafshani, 2003).

Validity originally refers to the integrity in application of methods and the precision of findings in relation to data in quantitative studies (Noble & Smith, 2015). However, many researchers are in the opinion that this characterization of validity is not appropriate in qualitative studies and instead, offer other terms that are more fitting such as quality, rigour and trustworthiness (Golafshani, 2003).

Healy and Perry (2000) asserted that the quality of a qualitative study must be "judged by its own paradigm's terms" (as cited in Golafshani, 2003, p.601). Taking this notion through into the areas of rigour and trustworthiness, this study shall be evaluated within its paradigm of Quantum Science.

Qualitative research has often been criticised for lacking scientific rigour as well as be laden with researcher bias (Noble & Smith, 2015). While qualitative researchers defend the notion of

scientific rigour by means of redefining what constitutes it, by adopting the Quantum Science paradigm inevitably gives “scientific” legitimacy to the principles of subjectivity, reflexivity and social interaction, all of which constitutes rigour in qualitative research. According to Golafshani (2003), issues of reliability and validity such as rigour, are rooted in positivist perspective which, as was ascertained in Chapter Two, was birthed out of Classical Science. Since Classical Science is unable to explain a phenomenon which stems from first-person experience, qualitative researchers have had to find ways to deny, dismiss or deconstruct these concepts (Wendt, 2015). Quantum Science on the other hand, validates this first-person experience. It points out that rigour is not about methodologically constructing experiments to authenticate a hypothesis, but instead, addresses the goal of showing how things look to me, “from my situated ‘somewhere’ rather than an objective ‘nowhere’” (Wendt, 2015, p.37). It ultimately restores harmony between faith and reason which leads to trustworthiness. Additionally, trustworthiness relates to the canons of ‘good science’ (Golafshani, 2003). Since this thesis adopts the tenets of Quantum Science, it then becomes necessary to accept subjectivity through the qualities of Observer Effect, Entanglement and Superposition, demanding trust in the research process and findings.

However, despite the non-issue of validity and reliability based on the principles of Quantum Science, I have regardless, chosen to adopt methods that will assist in the enhancement of credibility in my study. According to Groenewald (2004), method of triangulation is used as a strategy to reduce concerns vis-à-vis validity and reliability. Denzin (1978) suggested four types of triangulation consisting of multiple methods, investigators, sources of data or theories (as cited in Merriam, 2009). In this study, this strategy was used by adopting multiple sources of data via the thick literature itself, cutting across various seemingly unrelated disciplines of Natural Science, Social Science and Theology. By ‘island hopping’ and discovering connecting themes and establishing a nexus amongst these interpretations, the soundness of the analysis and thus the integrity and trustworthiness of the findings is reinforced.

Additionally, Pierce (2008) mentioned that the reliability or, in this study, trustworthiness of data, can be measured through consistency. Taking this into account, by first locating and situating my position as a researcher, I am then able to identify similar, related themes within the literature collected. These themes were then analysed to the point of saturation as a ‘measure’ of consistency. I had also used thick description within the research to describe the concept of

mindfulness within the Sufi tradition. Lincoln and Guba (1985) explained that through thick description, external validity can be achieved (as cited in Golafshani, 2003).

To further strengthen the trustworthiness of the data and thus the findings, I had also used another form of validity check where my interpretation was corroborated by a primary source- a living Sufi, through multiple, intimate conversations as previously explained. This was to ensure that the true essence of meaning due to the novice status of myself as a researcher as well as the complex nature of the topic of study, is being moderated.

Finally, as a researcher, I had consciously adopted a phenomenological attitude when conducting the research. Steiner (2002) explained that this phenomenological attitude allows for me, the researcher, to engage deeply with the phenomenon being studied as well as to control any inclination that I may have in mimicking a quantitative approach to my research- including the reduction of data and the need to achieve generalisability. Seeing that this thesis consists of theoretical work undertaken to attain new knowledge based on foundational topics of the nature of reality and the concept of mind in contemporary mindfulness and Sufism ultimately makes this study a basic research. According to Shapiro (2005), critically questioning the descriptions of reality is important for ‘scientific’ fairness, efficiency as well as ethics. Since this study is a basic research, the matter of generalisability in that the findings can be standardised to be applicable into other settings is a non-issue because this basic research conducted is akin to a thought experiment in Quantum Science. A thought experiment in Quantum Science was a result from the difference in language used to explain the Physical Tree and the Psychological Tree, discussed in the preceding chapter. Because Einstein was not able to distinguish this difference in language, he concluded that he was no longer able to conduct experiments in reality as he had moved from the Language of Physical Reality to the Language of the Self – giving rise to ‘*Gedankenexperiment*’.

On this score, I wish to highlight that the findings are reported in the “as-is” state, reflecting the unaltered nature as it was observed. The subsequent interpretation of the findings is mine influenced by my CETOE.

4 FINDINGS: SUFISM AND SPIRITUALITY

The findings of the research questions are presented in two chapters, mainly this present chapter and the following Chapter Five. In order to answer the research questions, the findings are presented accordingly as a necessary step to fully understand the context from which the findings to both the research questions have been uncovered.

To recap, this study seeks to uncover the answers to the following research questions:

1. What are the underpinning beliefs and axioms on mindfulness in contemporary mindfulness and in Sufism regarding the nature of reality and the concept of mind?
2. How does Quantum Science's view on the conception of mind relate to the beliefs and axioms of Sufism?

4.1 INTRODUCTION TO ISLAM

Islam. One word that at present day, generates strong polarised opinions in the modern world. These divided views were spurred by the domination of portrayal of Islam in the media and political debates representing 'Western struggle' against 'terrorism' (Fuller, 2010). Yet, with about one billion followers, it remains one of the most misrepresented religions to date (Fuller, 2010).

Islam began in the seventh century when Prophet Muhammad received his first revelation of the Quran which took 23 years to complete. At this juncture it is important to clarify that the Quran here does not denote the physical bound volume also known as the *mushaf* (meaning the compilation of written pages) but the message communicated by God to the Prophet. The Sufi tradition subscribes to the view that the Quran comprises of three components; the physical bound volume known as the *mushaf*, the human and the universe (A. Ahmad, personal communication, April 5, 2018). However, for ease of explanation, the Quran referred to in this chapter denotes the *mushaf*. Revealed in Arabic, the Quranic worldview is very closely connected to the language. Arabic, like Hebrew and Aramaic, belong to the Semitic family whereby each word is derived from a root characteristically made up of three letters upon which hundreds of

derived forms can be constructed (Chittick & Murata, 1994). This suggests a richness of associated meanings of one concept in the Quran while at the same time demonstrating the difficulty in translating Arabic words into English in addition to capturing the vast interrelationships amongst these words. Thus, a translation of the Quran, is not the Quran, but only an interpretation of its meaning. For example, the definition of the word Islam. Etymologically, Islam means peace and surrender. However, another lesser known connotation of its three-letter root word is *salima*; to be whole, complete, healthy, safe (Helminski, 2017). Its adjectival form, *salim*, means whole, pure, sound, unblemished, unimpaired and secure (Helminski, 2017). Therefore, Islam is a religion that places importance on the whole rather than its parts, focusing on a holistic way of life.

The basic articles of faith mentioned in the Quran consist of God, the Angels, the Scriptures, the Prophets, the 'Last Day' and *Qadha* and *Qadar* (the measuring out) (Quran, 4:136, 54:49, Sahih International). The general concept of these principles of faith as well as other Islamic credo such as the universally recognized Muslim creed of "There is no god but God, and Muhammad is His messenger", known in Islam as *Shahadah*, is mainly accepted by Muslims at large. However, differences in opinion on its detailing appear depending on the varied approaches taken by Muslims in interpreting words such as the meaning of God, Messenger, the Quran, and others (Chittick & Murata, 1994).

4.1.1 Paths to Islamic Knowledge

Over the course of Islamic history, there have been several major schools of thought that have been established which take specific approaches to Islamic knowledge. Although not always clearly distinct from one another, the key difference in these schools related to their approach to human understanding, in particular, the nature of knowledge, "How do I know what I know?" (Chittick & Murata, 1994, p.236). These modes of knowing ultimately arose from the need to seek the 'truth'. Yet, in contrast to the modern non-East, Muslim scholars accept a fundamental 'Truth' in their nature of reality: the existence of an 'Ultimate Reality' as demanded by the first part of the Islamic creed of "There is no god but God" (Quran, 3:18). Hence, what these seekers

of truth are in fact pursuing is the kind of knowledge that allows them to understand ‘Reality’ as it truly is (Chittick & Murata, 1994).

Islamic learning can be categorised into three main dimensions with numerous subcategories for knowing the ‘Real’ and understanding the nature of the universe and the human soul as pictured in Figure 5.

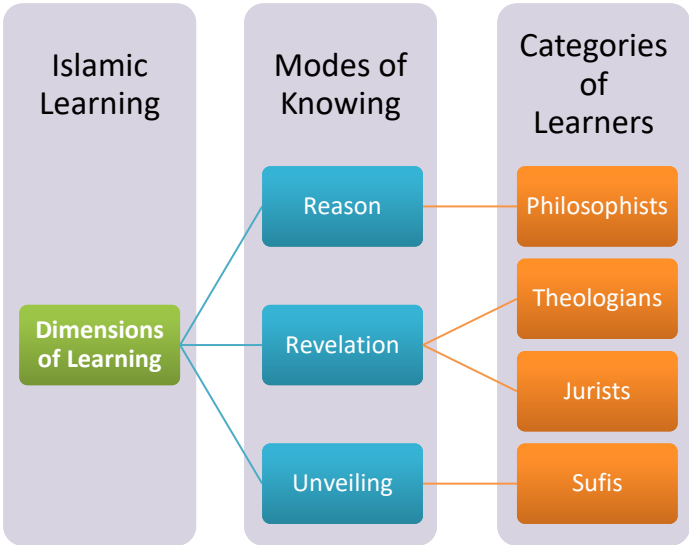


Figure 5. Categories of Islamic Learning and its Learners

The first mode of knowing the ‘Real’ is through the path of reason which is to simply use our innate intelligence or ‘*aql*’ (Kuru, 2016). This group of Muslims, known as *filasifa*, consists of prominent scholars like Ibn Sina, also known as Avicenna in the West, and al-Farabi, believed that the best method to use intelligence was by way of rationality and philosophy that was established by Greek philosophers such as Plato and Aristotle (Chittick & Murata, 1994). As such, this approach very much resembles Western philosophical tradition prior to Descartes.

The second method of knowing is by way of revelation: accepting without question the messages brought by the prophets (Chittick & Murata, 1994). This path is also the universal path of faith. Generally, this path is followed by two groups of learners: authorities in Islamic theology (*kalam*) also known as *mutakallimun* and scholars who specialise in Islamic Law (*shariah*)

known as ‘jurists’ or *fuqaha*’ (Nakamura, 1985). *Kalam* is also called ‘*usul al-din*’ meaning the scientific method of religion or ‘principles’ of Islam, signifying that the fundamental roots of the religion lie in faith and in understanding the nature of things (Chittick & Murata, 1994; Kuru, 2016). As such, the *mutakallimun* often took a defensive position in relation to the Quran, safeguarding its truth against those who would presume to doubt it. *Fiqh* or jurisprudence, on the other hand, means to understand the teachings of religion (Chittick & Murata, 1994). Therefore, if *kalam* are the “roots” of Islam, *fiqh* are its “branches”. In other words, jurisprudence is the consequences of the religion representing the application of the principles of faith.

A third way of knowing reality in Islam is through unveiling or *kashf*, an approach that consciously incorporates the vertical dimension of human experience without intermediary of reason or revelation (Helminski, 2017). This vertical dimension relates to the ascent of the soul through known stages of purification which is accomplished by the transforming force of ‘Love’, a path often taken by Sufis (Helminski, 2017). This approach will be further discussed in Chapter Five.

According to Chittick & Murata (1994), there are only few contemporary Islamic scholars who are evenly conversant in all three modes of knowing. Modern Islamic scholars tend to merely focus on *Fiqh* causing regular present-day Muslim as well as non-Muslims to mistake *Fiqh* as the most important form of Islamic thought (Hilgendorf, 2003). As a result, the term *ulama*’ which originally means a scholar of all disciplines, has been diluted to only denote a jurist for many Muslims (Chittick & Murata, 1994). The reasons for this preference are layered and multi-faceted which, for reasons of scope and limitation, shall not be covered in this thesis. Nevertheless, there have previously been many Islamic scholars who were often associated with more than one category of learners at a given time, and even those who were beyond categorisation, many of whom, if not all, were Sufis. For example, after discovering that reason alone was an insufficient means to attain the truth, Al-Ghazali, a well-known Islamic jurist, economist, and psychologist, turned to Sufism as an approach to explore the soul and spirit (Nakamura, 1985).

4.2 SUFISM AS A MYSTICAL PATH TO SPIRITUAL ACSENSION

Sufism has long been known as a chosen path for Muslims who wished to undertake the spiritual journey that extends beyond dogmatic formulations of rules and rituals. Contrary to popular belief, Sufism has always existed upon the advent of Islam in 622. During this time, Muslims followed the path of self-purification, a path that required the purification of the heart and the perfecting of character to impact deed and action in order to reach the highest station of faith: worshipping God as if they see Him, knowing that although they do not see Him, He sees them (Haeri, 2003). This culminating state of God-consciousness, also known as *Ihsan*, happens when the seeker falls in Love with God (Bilqies, 2014). As the famous Sufi mystic Ibn Arabi once wrote,

Then you will see all your actions to be His actions and all your attributes to be His attributes and your essence to be His essence, though you do not hereby become He or He you, in either the greatest or the least degree. (as cited in Brewster, 1976, p.37)

Therefore, at the beginning of Islam, Sufism began as a ‘reality without a name’ when the love of God drove Muslims to search for the mutuality of the situation: to be loved by their Beloved. That path was to follow His designated Messenger. However, as time passed, Muslims found it more difficult to “live up to the reality of love, to imitate the Prophet with perfect compliance and to achieve the state where God was their hearing and their sight, speaking to them about Himself and the signs of His presence in all things” and thus, ‘Sufism’ came about (Chittick, 2000/2001/2003/2005/2008, p.48). Yet, to rigidly label Sufism as one definitive movement is far from accurate. As such, this thesis refrains from attempting to put forth one succinct definition of Sufism so as to not dilute the complexity and subjectivity required to journey down the path of the Sufis. Ultimately, Sufism is a mystical path that involves traversing from illusion (not referring to the non-real) of separation of oneness into singularity (A. Ahmad, personal communication, October 20, 2018). Singularity in Sufism refers to one. For example, at the point of *Shahadah*, translated from Arabic to mean ‘No God, But God’ refers to Nothingness, and at the point of ‘But God’, there is singularity (A. Ahmad, personal communication, October 20, 2018).

4.2.1 History of Sufism

Syed Hossein Nasr (1997/1999/2007) has suggested that Sufism, in its essence, has no history. However, in searching for Sufism's reality, it has been commonly agreed that there are distinct features of the tradition throughout the ages. This common periodisation of development can be categorised into several phases which are not necessarily mutually exclusive, meaning that these phases may co-exist simultaneously and are fluid (Brewster, 1976; Arslan, 2014). They are:

- i. period of the Prophet and his Companions or 'Age of Happiness',
- ii. period of Asceticism,
- iii. period of Affectives or *Tasawwuf*,
- iv. period of Ecstasies or 'Unity of Being',
- v. period of Orthodox or *Tariqa*,
- vi. period of Monists, and
- vii. present day

As previously discussed, Sufism was a reality without much of an outer coordination during the 'Age of Happiness'. The notion of the name only started during the ruling of the Ummayyads in the eighth century when Islamic leadership began deviating from the original teachings of Islam (Haeri, 2003). A distinct feature of Sufis during this early period of Sufism was grief, in that one would be unworthy of God's love (Brewster, 1976). Famous Sufis that fall within this category were Al-Hasan Al-Basri and Harith Al-Muhasibi. The period of Affectives or *Tasawwuf* on the other hand, is often characterised by a deep love for God, as demonstrated by Rabi'a Al-Adawiyya (Brewster, 1976). A prominent Sufi, Rabi'a was renowned for shunning marriage away due to the overwhelming love she felt for God. Her famous poem that was also quoted by Al-Ghazali demonstrates this deep affection:

Two ways I love Thee: selfishly,
And next, as worthy is of Thee.
'Tis selfish love that I do naught
Save think on Thee with every thought.
'Tis purest love when Thou dost raise
The veil to my adoring gaze.
Not mine the praise in that or this:

Thine is the praise in both, I wish (as cited in Brewster, 1976, p.39).

The next phase is known as the period of Ecstatics or ‘Unity of Being’ in that these Sufis were in search for an ecstatic union with God to the extent that they were often known as the ‘drunkards’ within the Sufi movement (Mojaddedi, 2003). It is by no surprise then that these Sufis were often misunderstood due the misinterpretation of their quotes as they often used ambiguous sentences that may blur the distinction between the Creator and the created (Foltz, 2006) such as the likes of al-Bistami and Mansur al-Hallaj. For example, al-Hallaj was sentenced to death for blasphemy for uttering ‘*Ana al-Haqq*’ which translates to ‘I am the Truth’ when overcome with rapture (Massignon, 1982/1994). The time when al-Hallaj was martyred was often known as the pinnacle of the Sufi movement (Haeri, 2003). The next period was a response to the misconception of the Muslim public of Sufism. The period of Orthodox or *Tariqa* (order) saw the attempt of a group of Sufis in rescuing the Sufi order by explaining the behaviours of the ‘drunkards’ using the image of the balance of reason as a permissible articulation of their experience (Brewster, 1976). Thus, Sufis that fall within this school, such as the renowned Al-Ghazali and Al-Hujwiri, were also known as the ‘sober’ (Mojaddedi, 2003). In fact, Al-Ghazali played a vital role in integrating Sufism into mainstream Islam that in later periods of Islamic history, the Sufi order became the main method of spreading and sustaining Islam in other countries (Brewster, 1976).

The period of Monists brought out prominent scholars such as the likes of Rumi and Ibn Arabi. Sufis within this school often stress on the importance of external and internal meanings of God in the Quran by using *ta’wil* or interpretations. Legitimising *ta’wil* as an extension of the Quran, monists’ see the Quran as “the cipher of an eternal Word, forever capable of producing new creations” (Brewster, 1976, p.42). Thus, Sufis in this school are more fluid in their exegesis of the connections of *zahir*, the external, and *batin*, the internal meanings of the Quran compared to the Orthodox. The final period refers to Sufis of present day.

The Sufi periods ultimately, differ in the approach and manifestation to Divine experience of the seeker, which is typically explained via the popular typology of Sufism as shown in Figure 6. These polarities refer to how the Sufi experiences the Divine love of God where on the extreme left are the ‘drunken mystics’ where Divine intoxication is manifested through acts of love based on Divine beauty as the heart becomes enraptured with joy and happiness that Physical Language is unable to accurately capture their feelings of intoxication.

In the moments of intoxication, one does not know, one does not care, there is no mind, no self, just the currents of love that have taken one away from everything one knows into a different world, a world without difficulties or conflict, in which everything is alive with love. And in these states the heart can grow and expand, until the heart is everything, the call of every bird, the taste of every tear (as cited in Vaughan-Lee, 2006).

On the right pole are the ‘sober mystics’ where the acts of love are manifested through obedience and methodical worship (Mojaddedi, 2003). Despite the polarity in experiences, both the drunk and sober mystics are intoxicated and driven by the love of the Divine and a Sufi seeker can experience both forms of ‘intoxication’.

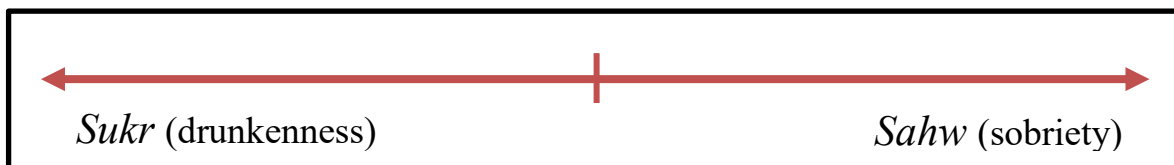


Figure 6. Approaches to Divine Experience for a Sufi Seeker

Moreover, Martin Lings (1975/1993/1995) clarified there are various schools existing in every period with differences being only in the variances of selection from the myriad of practices offered by Prophet Muhammad’s own examples and recommendations. The fundamental tenets of Sufism remain the same throughout the periods. However, it is well-known in the Sufi tradition that Sufism is now a name without a reality. The reason for this is the dilution of the sacredness of the Sufi tradition as a whole into a superficial understanding of its methods and techniques or that it has been taken out of context to only represent an esoteric essence without the form (Lings, 1975/1993/1995; Chittick, 2000/2001/2003/2005/2008; Helminksi, 2017). Thus, any other movements that claim to be Sufism but do not encompass both essence and form is not deemed to be Sufism and therefore, not been included in this thesis.

4.2.2 Foundations of Traditional Sufism

Although the Sufi tradition has recognizable differing features throughout the periods, the essential foundations of Traditional Sufism remain the same- emphasizing knowing God through

His Names and Attributes. According to Brewster (1976), the starting point in a study of Sufism must begin with the fundamental study of the Quran which likewise, is the focal point of Islamic devotion. Hence it can be said that the central principles of Sufism are ultimately rooted in Islamic reverence. According to Sachiko Murata (1992), there are three basic principles of Islamic faith upon which all Islamic theology is based upon, including the articles of faith mentioned earlier in section 4.0, which are *tawhid*, *nubuwwa* and *ma'ad*.

Traditional Sufi teachings often address the importance of balance: finding the equilibrium between the outer code of conduct and the inner reality of existence (Haeri, 2003). Additionally, this outer code of conduct, or Islamic law, is given a deeper meaning in that they are not only respected in their traditional forms, but also perceived as a means of unity with the Divine (Helminski, 2017). A significant concept, unity is considered the most central foundation of Islam through the principle of *tawhid*, or Oneness, which is made lucid through copious amount of narrations that is befitting of a thesis of its own. However, for the purpose of this study, the following descriptions will be taken.

First, *tawhid* is epitomised in the *Shahadah* of ‘There is no god but God’, the doctrine of Oneness of Being. It reveals the belief that there is ‘no thing’ except the Divine: that God is Oneness, unity, the One and only (Richardson, 2015). This is the main difference between Islam and Christianity, specifically the Holy Trinity.

Secondly, through the 99 names of which God possesses, each exemplifying a Divine attribute, it demonstrates that anything other than God does not and cannot possess these qualities on their own (Chittick, 2006). For example, God’s name *Ar-Rahman*, meaning mercy-giving, denotes that none is Mercy-giving but God. In other words, God alone is truly Mercy-giving. In addition, Martin Lings explained that *tawhid* essentially means that “what the eye sees, and the mind records is an illusion, and that every apparently separate and finite thing is in Truth the Presence of the One Infinite” (1975/1993/1995, p.55). This basically describes how the Universe receives its reality from God. For instance, in light that none other can be powerful but *Al-Qadeer*, a Divine attribute, everything that has been called to have power can only be a manifestation of the Divine power bestowed upon the created things by the one Reality. Hence, the entire Universe is a vast collection of signs pointing to God as the Ultimate Reality and Supreme Principle, including humans (Chittick, 2006). This is an indication that there is no

break between God and the creation, of the Divine and human, demonstrating the Omnipresence of God.

Third, *tawhid* also signifies the nonexistence of the concept of deism in Islam as the notion severs the link between the Divine and the human. Deism, a philosophy originating from ancient Greece, became the preferred theological position during the Enlightenment movement as it attempts to explain the natural world and the relationship between man and God through the principles of rationality, reason and order (Pilland, 2011). This Deist worldview became a movement during the Scientific Revolution (Pilland, 2011), at the height of Classical Science, taking on its tenets of causality to represent the nature of the world and man's relationship to God. This causality implies several things: a 'noninterventionist' God who after having created the Cosmos, lets the world run its course suggesting a clockwork universe, only interferes when things get out of hand, is aloof, or ultimately does not exist (Chittick, 2006). This dependence on rationality and reasoning consequently swapped faith for human logic.

In Traditional Sufism, it is said that the mystic is one who activates the inner faculty to contain the Quran (Brewster, 1976). This emphasis placed on the Quran ultimately recognizes the centrality that the revelation through Prophet Muhammad holds in the Sufi tradition. Furthermore, in Islam, the belief is that God had sent a Prophet or sage, to every people from the beginning of human existence. At this juncture, it is important to clarify that humans in Islam, began with Adam, a prophet, and not through the evolution of apes as propagated by Darwin. These creatures, known as *bashar*, although may be similar to present day humans in its physicality, do not possess the uniqueness of humans which will be further explained in Chapter Five. Thus, the way of Islam thereupon Sufism, grounded upon the principle of prophecy, or *nubuwwa*, is the Adamic way of behavior (Haeri, 2003).

The third foundation of Islam is *mabda'-wa-maad*, which translates to 'the Origin and the Return' (Murata, 1992). This means that the path of the human, as well as all of creation, is one that originates from God, sustained by God and goes back to God, which essentially connects back to the concept of *tawhid*. The journey from God from the 'former heaven' to a 'latter heaven' results in the emergence from non-manifestation to manifestation, from invisible to visible, from inside to outside, from spirit to body (Lings, 1975/1993/1995; Chittick, 2003; Chittick, 2006). This journey is referred to as the descending arc of existence by Chittick (2006).

On the other end, there is also the natural flow of existence which sees ‘the Return to Origin’ from “outside to inside, from immersion in the sense and bodily functions towards awareness and understanding, from constraint towards freedom, from forgetfulness and ignorance towards remembrance and awakening” (Chittick, 2006). However, the return to the ‘former heaven’ is contingent upon meeting God and how one meets God, for example as Compassionate and Mercy-Giving or as Wrathful and Angry, is dependent upon how one lives one’s life. Therefore, a Sufi is one who is conscious of this journey of existence and realizes the courtesy owed to the prison that is his body, which has been given to him on loan (Haeri, 2003). He is aware that he will ultimately return to the ‘former heaven’, an abode of infinite bliss from which he initially came from and therefore must constantly be heedful of his actions. Thus, a Sufi is one who is conscious that the current world is only but a shadow of Reality

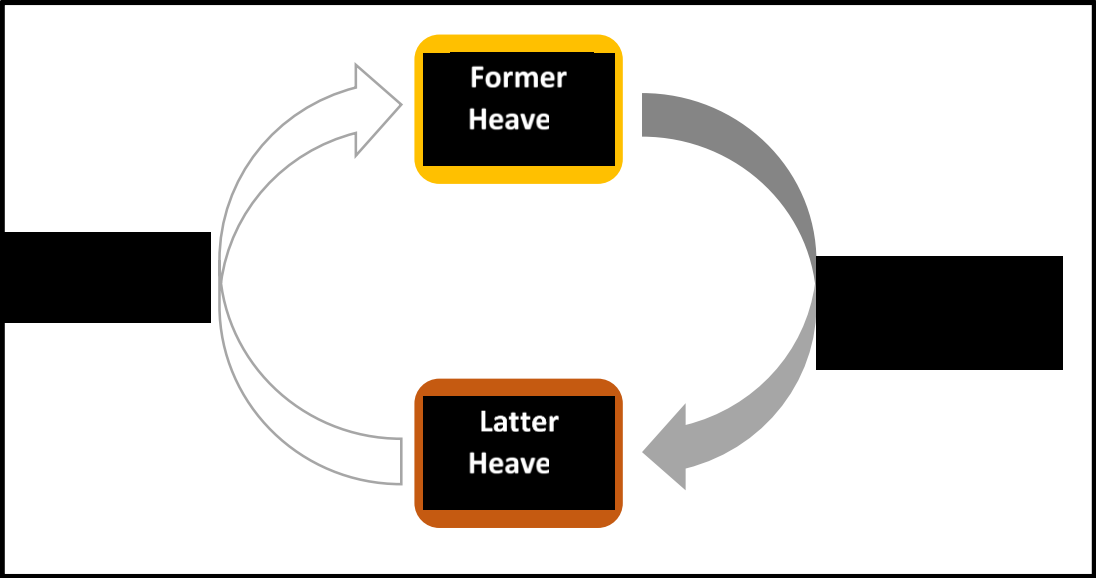


Figure 7. The Arc of Existence in Islam

4.2.3 Traditional Sufi Ontology: Vision of Totality

Given the three foundations that make up Islamic and consequently Sufi thought, it is apparent that Traditional Sufi ontology starts from a distinct metaphysical premise. This premise ultimately begins with one supreme principle, ‘the Unknowable Reality’ and that everything in existence appears from it and returns to it. To further assist in explaining this ontology, one must first clarify the nature of the human in Sufi thought. In Islam and Sufism, the cosmos and everything in it was created with one Creative command “Be!” except for man (Quran, 16:40;

19:35, 36:82). Adam was instead, fashioned with care from clay taken from the physical universe and breathed from God's spirit, a soul (Quran, 32:7-9). However, before being breathed into the corporeal frame, the 'spirit man' had made a covenant with God testifying that God alone is the Supreme Principle (Quran, 7:172). This covenant was made in a metaphysical realm, in a place referred to in the Quran as *Luh Mahfuz*. However, to become God's vicegerent, an elevated rank above the rest of creation, man would need to reside in the physical realm. Further explanation between the difference of spirit, soul and body will be clarified in the next chapter.

In Sufism, there are two types of external realms or *Alam*: the first is *Alam Mulk*, the corporeal realm of the visible cosmos or the universe as we know it; the second is *Alam Malakut*, the spiritual realm which is also known as the intellectual realm where the souls and all spiritual faculties reside ("Mulk, Malakut and Jabarut", 2011). These two realms are called by many other names such as *Alam Ma'qul*, *Alam Mutlaq* and so on but they all relate to the two (Corbin, 1972; Schuon, 1975/2002; Seker, 2013). There is however another realm, one that is not like the other two realms, a realm that has no manifestation or external existence. This is the *Alam of Jabarut* (Schuon, 1975/2002). As a side note, there are higher levels of the non-manifest realms described in Sufism which requires significant detailing but for the purpose of depicting the importance of the 'unseen' in Sufi ontology, this thesis identifies *Alam Jabarut* as the overall realm of the non-manifest. These three universes are inseparable in that they are by each other as well as within each other ("Mulk, Malakut and Jabarut", 2011). Yet the realms of *Mulk* and *Malakut* are that outermost surface of *Jabarut*, the inmost concealed core of Reality (Corbin, 1972). In other words, *Alam Mulk* and *Malakut* appeared and became because of *Jabarut*, like a tree that sprouted from a seed, and man, its fruit. Because of this, human is both metaphysical and physical: physical in that the body came from a tangible source and metaphysical in that the essence of human is that of non-manifestation. This makes up Sufi ontology: the acceptance of an unknowable reality through *Jabarut*, the foundation of everything; that subjective reality exists in *Malakut* and the human; and there is objective truth in *Mulk* through the physical cosmos and man's corporeal frame.

Additionally, the human was created in the best of moulds (Quran, 94:4) denoting not to the physical frame, but of the human's essence (A. Ahmad, personal communication, September 8, 2018). This is because the human was created as an extension of Him, possessing God's Divine

attributes. These Divine attributes, as explained earlier on, are always present in polarities for example as *Az-Zahir*, the Manifest, or *Al-Batin*, the Hidden (“99 Names of Allah – Meaning and Explanation”, 2019). In Sufism, the strength of the metaphysical comes from the ability for the soul to ‘feel’ His name and their polarities (A. Ahmad, personal communication, September 8, 2018). The perfect human is one who exemplifies both ends of God’s attributes, knowing how to emphasize “both/and” polarities in his everyday living. This is the vision of totality. Thus, the human is ultimately one who is metaphysical in essence, living in a shadow world made of divisible physical objects, existing in an ‘in between’ state of wholeness. All these points back to *tawhid*.

4.2.4 Traditional Sufi Episteme: Method of Knowing

As stated in the section before, Sufi ontology sees *Tawhid* as the ultimate Truth, that He is the only Reality. According to a famous Sufi, Junayd al-Baghdadi, one is only able to reach God through Himself (Elmarsafy, 2009). This means that to reach God, one must know God, a necessary requirement to becoming the “perfect man” or *insan al-kamil* as recognised by Ibn Arabi (Lo Polito, 2010). At this juncture, it is noteworthy to mention that the word man in this thesis is used neutrally, without any gender connotation as the limitation in translation into the English language is not able to fully capture the essence of the meaning of *insan*. In Arabic, *Al-insan al-kamil* is almost always translated to the perfect man, universal man, and comprehensive man, never human. Therefore, in keeping with this tradition, I shall continue to refer to *insan* as man to differentiate from the non-human creation. *Al-insan al-kamil* is the perfect copy of the Creator because man was given His names. The image portrayed for man in the Quran as explained by Ibn Arabi is “he who exists as signs”, pointing to God (Takeshita, 1982, p.120).

Coming back to the types of knowledge, in Sufism, knowledge of the Real consists of two kinds: *Tanzih* and *Tasbih* (Dieker, 1999/2001/2005). *Tanzih* is the knowledge of God as invisible and beyond knowledge, whereas *Tasbih* is the knowledge of God as manifested and evident in everything (Dieker, 1999/2001/2005). Like His names, the two kinds of knowledge of God are seemingly contradictory, yet, it is the unity of both that results in real religious knowledge. Point in case: a green apple is seen to be green as one would experience it, this is *Tasbih*, yet

the true colour of the apple is anything but green. This is because what you experience as green is in actual fact the colour that is being reflected out amongst all other colours in the light prism. This means that one would never truly know the colour of the green apple, a fact that we also know. This is *Tanzih*. Thus, God is both visible and invisible, invisible in Himself in that His essence is unknowable but at the same time visible because He willed for Himself to be visible to us. As such, according to Thomas Merton, to know Him is to be aware of how he makes Himself manifest to us in created being (Dieker, 1999/2001/2005). This is further acknowledged by the story of a man who came to the Prophet asking him how one arrives at the knowledge of the Real to which the Messenger replied, "by knowing oneself" (as cited in Haeri, 2003, p.33).

According to Traditional Sufi literature, to know oneself is to know one's "heart" (Nakamura, 1985; Lings, 1975/1993/1995; Haeri, 2003; Chittick, 2003). The heart contains the blueprint of truth, where the Divine laws are preserved (Lings, 1975/1993/1995). This is recognised as the innate nature of man in Sufi tradition. However, the heart identified is not of the physical pumping organ but the centre of the soul. This will be further clarified later in the chapter. Therefore, to recognise and acknowledge Reality, the human must ensure that the heart is not tarnished or covered. One who truly knows his heart is one who is awakened to the truth about Reality. In other words, each heart is endued with knowledge however, the degrees of knowledge vary because of the differences in the reception of Divine knowledge (Jami', 1906).

Reception of Divine knowledge requires the constant "swinging" of the heart, much like a pendulum, from three types of *Tasbih* knowledge: knowledge of the scriptures, knowledge of the cosmos, and knowledge in you [oneself] (Quran, 41:53). All three of these facets of knowledge is nothing other than the theophany of God's names, exhibiting His attributes in varying degrees. However, only man displays unfragmented and undifferentiated attributes of His. The universe on the other hand, considered a cosmic text, manifests fragmented and differentiated many-ness of names of God to enable us to attain the knowledge of His names and attributes but all pointing to one source. Thus, one who acquires the ability to be in a constant "swinging" state is a "Full Man" as seen in the red arrow in the Figure 8.

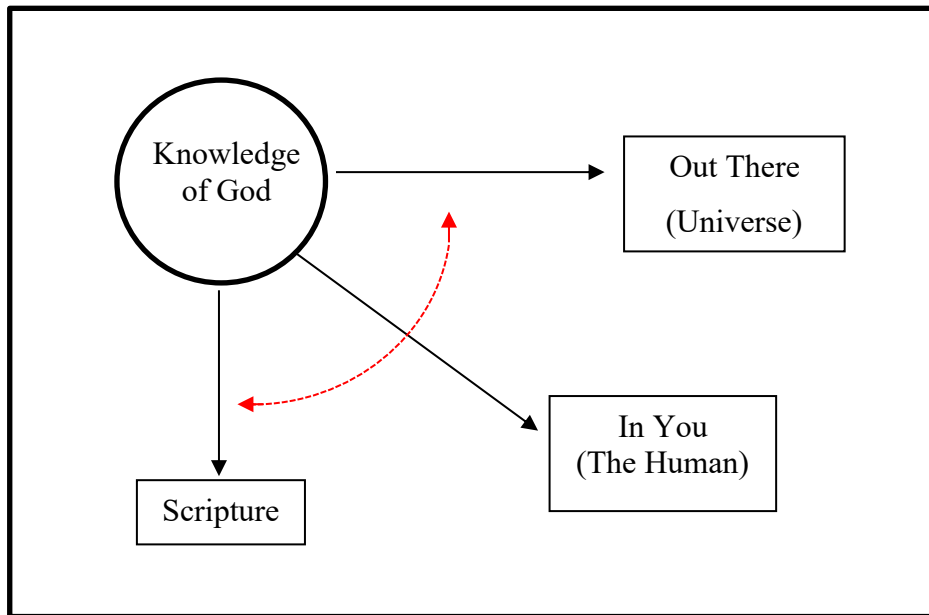


Figure 8. The Full Man, adapted from A. Ahmad, personal communication, April 5, 2018.

As previously explained in 3.1, through *kashf* (unveiling) as a personal experience, the Sufi seeker is able to acquire Divine knowledge. This personal experience often comes by way of inspiration, traditionally recognised in three forms: *Lawa'ih* or glimmerings, *Lawami'* or flashes, and *Tawali'* or dawnings (Jami', 1906). However, to reach the station of a Full Man requires discipline in propriety and observation of the way of *shariah* and *tariqat* or the Spiritual Path (Bilqies, 2014).

The methods of *tariqat* (Spiritual Path) is very much intertwined with its Sufi doctrine and plentiful, thus warranting a study of its own. For the purpose of this thesis, some of these methods shall be described briefly in Chapter Five.

4.2.5 True Knowledge as Method to Certainty and Certitude

The preceding section described that the observation of *shariah* and *tariqat* is a path to achieve knowledge of the Real or True knowledge. Attaining True knowledge, according to Hassan (2011), gives rise to a level of certitude of faith in God, His signs and meeting Him in the Hereafter, to the point that all traces of doubt, ignorance and conjecture is removed. This stage of faith is referred to as certainty or *yaqin* and is considered the summit of the Sufi station (Lings, 1975/1993/1995). *Yaqin* and love, according to Sufi masters, “are the pillars of faith from which all good deeds flow” (Hassan, 2011, p.6).

As revealed in the Quran, *yaqin* (certainty) consists of three levels: *'Ilm al-Yaqin* (knowledge/lore of certainty), *'Ayn al-Yaqin* (eye of certainty), and *Haqq al-Yaqin* (truth of certainty) which can be improved through the way of the *tariqat* and acts of obedience (Lings, 1975/1993/1995).

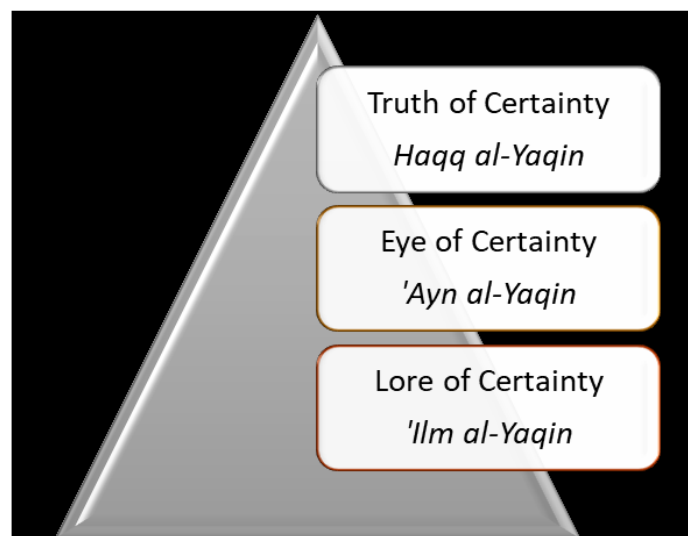


Figure 9. Levels of Certainty to the Divine Truth

'Ilm al-Yaqin (knowledge/lore of certainty) is a deep knowledge beyond doubts, forgetfulness or negligence (Hassan, 2011). It is the ‘mental’ understanding which has been raised to the level of certainty by faculties of intuition which surround the sentient Heart (Lings, 1975/1993/1995). *'Ayn al-Yaqin* (eye of certainty) refers to the sentient Heart-knowledge while *haqq al-Yaqin* (truth of certainty), the highest of the three, is the certainty that comes with experience where all otherness is nonexistent giving rise to the ‘Supreme Identity’ (Lings, 1975/1993/1995).

These three certainties can be explained through the analogy of fire. There is certainty that comes from hearing the true report of a description of a fire (*‘Ilm al-Yaqin*), of seeing or witnessing its flames (*‘Ayn al-Yaqin*) and from touching and being consumed by the fire (*haqq al-Yaqin*). Therefore, to talk about achieving the highest certainty and certitude, one must traverse the ‘Physical Tree’ in the corporeal realm into the realm where our ontological level is closest to *Alam Malakut* (intellectual realm where souls and spiritual faculties reside).

4.3 THE HUMAN IN SUFI THOUGHT TRADITION: NATURE AND MEANING

The nature of reality in Sufism is marked by a grandeur of scope that puts the metaphysical at centre-stage as clarified earlier in the chapter. It accepts that invisible realities permeate the visible realm through the interrelatedness and interconnectedness of all things and events. As Chittick (2013) explains, all phenomena are transparent in that they are manifestations of the one ultimate reality. Thus, Sufis accept that observable reality may not necessarily be what it appears to be but reality through the observer’s point of view, with the observer using an instrument to do the observing. This is again in line with Quantum Science’s conception of nature as being contingent upon the method the observer poses questions. Thus, the Sufi nature of reality is one that is undifferentiated and indeterminate and can only be experienced by the seeker himself. This nature of reality acknowledges the endless richness beneath the surface and beyond appearances. It recognises that reality is always veiled. However, by using the correct methods to observe the Cosmos, unveiling or *kashf*, as previously explained earlier, can happen. This model of reality is what informs the Sufi thought tradition with regards to what it means to be human and how we may go about achieving the fullest of our humanity. According to Ahmad (personal communication, September 8, 2018), the answer to what it means to be human in Traditional Sufism is two-fold: understanding human nature and the meaning to being human.

4.3.1 Nature of Human

Nature of human in Sufism is grounded upon the metaphysical reality: that we are non-material in essence residing in a bodily frame or what William Tiller, Walter E. Dibble Jr. and Michael J. Kohane (2001) call a “bio-bodysuit”. The metaphysical core consists of an eternal, timeless and space-less substance known as the “*nafs*” or soul (Russel, 2004). This *nafs* acts as the intermediary between the bodily constitution and the spirit or “*ruh*”, which is the source of all knowledge (Chittick, 2006). The human spirit before embodiment was already in cognition of his relationship with his Creator. This is evidenced in the Quran where humans, in our unembodied form, had testified that God is our Lord, as shown in Figure 10 (Quran, 7:172). The numbers in the figure correspond to the Quranic verses that describe them.

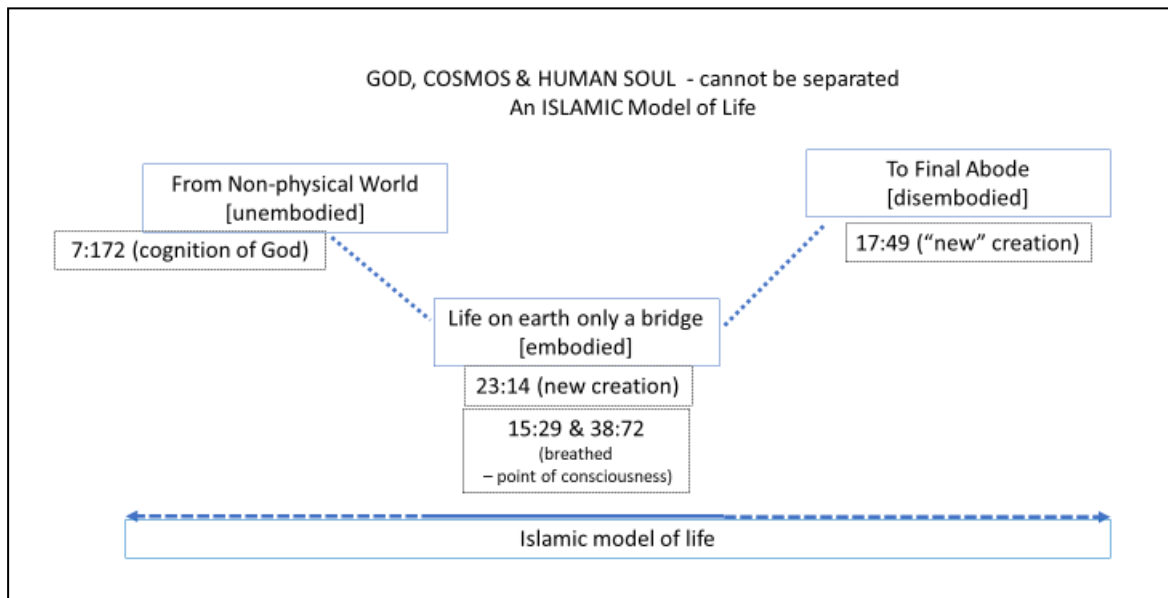


Figure 10. Islamic Model of Life, adapted from A. Ahmad, personal communication, April 5, 2018.

Earlier in the chapter, I had explained that man, through Adam, was fashioned from clay and breathed into him, God’s spirit. This corporeal frame made from clay, before being breathed the Divine spirit, is referred to as “*bashar*” in Islam, denoting to man’s physical frame (Dogan, 2014). Upon receiving the Divine spirit, man’s nature thus becomes a new creation, an *insan*, a human with consciousness that is at once spiritual-and-corporeal (Quran, 23:14, 15:29 & 38:72). At this point, human form becomes embodied in order to live on Earth. At the point of consciousness, humans through Adam, was taught every knowledge there was and was imbued

in him the love of knowledge (Quran, 2:31). This knowledge of the Cosmos and the understanding of its meanings was endowed only upon Adam gaining metaphysical qualities beyond his physical self (Dogan, 2014). In other words, an *insan* is one who is metaphysical in essence, whose soul is fused together with the physical body in order for him to live in the physical world, unlike the *bashar*, a shell without *nafs*, akin to the primordial animal not dissimilar to the Darwinian man. Thus, in Sufism, reaching the fullest of our humanity means being an *Insan Kamil*, the perfect man as briefly described earlier in the chapter, from where the human originates from an un-embodied form, to that of the here-and-now in a form that is embodied with flesh until it is time to return the body into the Earth and the soul, dis-embodied (A. Ahmad, personal communication, April 5, 2018). When the human meets the Creator, the dis-embodied soul is also referred to as a new creation but one that has experienced the living on earth unlike at the beginning of the embodiment, as seen in Figure 10. (Quran, 17:49). It is only in the ‘here-and-now’, when we are embodied, that our bodily senses operate and our ‘physical laws’ function and are understood by us (A. Ahmad, personal communication, April 5, 2018).

In Sufism, the physical frame of human is the lowest of low and the spirit, the highest of high (Ahmad, personal communication, April 19, 2018). This aspect relates to the inclination of the *nafs* to both good and evil and the freewill of the human to choose which to become. The summit of the soul is one that is angel-like and the lowest, bestial as pictured in the Figure 11. In Islam, animals cannot perceive its nature of being and can only remain at the epistemological level. Angels on the other hand, are gifted with the ability to understand their nature of being, yet do not have the ability to acquire more knowledge than what they have been endowed with. Only humans have the capacity to move between the ontological and epistemological levels.

In Islam, the soul can be broken down into three categories namely *nafs al-Ammarah*, *nafs al-Lawammah* and *nafs al-Mutmainnah* (Kuru, 2016). *Nafs al-Ammarah* is the first and most primitive level of soul, referring to the evil-commanding soul that possesses four attributes as mentioned by Al-Ghazzali: the pig representing greed, lust and desire; the dog characterising anger and predation; the devil instigating the former two; and the sage who’s capable to repel all evil (Kemahli, 2017). These four attributes are without restriction at this level. *Nafs al-Lawammah* also known as the self-reproaching soul, on the other hand, attempts to resist and control the primitive desires and impulses of *nafs al-Ammarah* (Kemahli, 2017). Furthermore, according to Ibn Arabi, *nafs al-Lawammah* is in a constant state of admonishment, continuously feeling

repentant for all the wrongdoings of man, thus becoming the trigger point on the upward spiritual journey (Kuru, 2016). As the human purifies himself/herself, the tranquil soul or *nafs al-Mutmainnah* comes into the foreground, bestowing the soul with peace and freedom (Kuru, 2016). This purified human will always be in perfect balance of *nafs al-Ammarah* and *nafs al-Lawammah*, thus *nafs al-Mutmainnah* comes into the equation to ensure that the balance is maintained and stable. This stability in the level of soul in Sufism is also known as station or *maqam* and can only be achieved through a harmonious balance between the inner and outer man as opposed to an ephemeral state (Dieker, 1999/2001/2005).

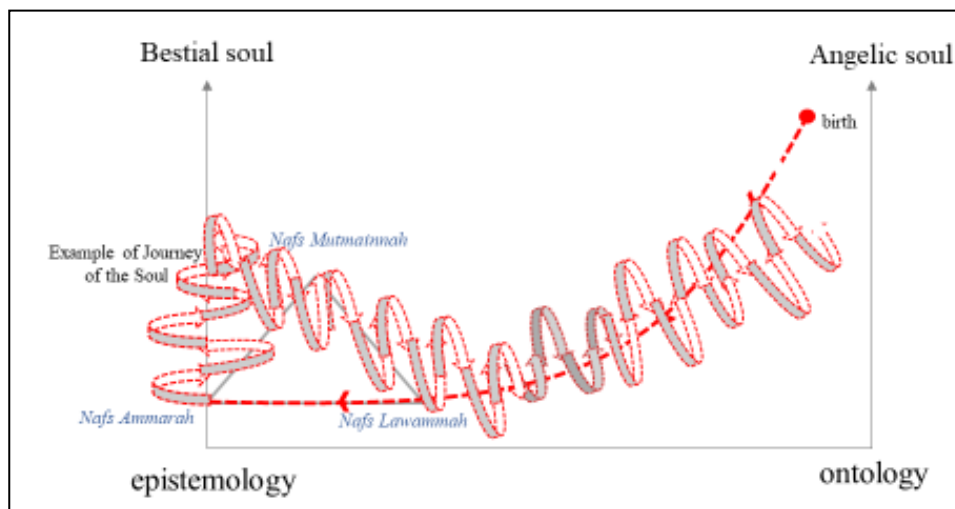


Figure 11. The Human Soul in Traditional Sufism

In Sufism there are higher stages of the soul than *nafs al-Mutmainnah*, however for the purpose of this study it suffices to understand the soul with regards to the three explained above. In the centre of the soul, lies the heart, not to be confused with the physical pumping organ as explained earlier. This sentient Heart or *qalb* is the seat of personhood, the locus of consciousness and awareness, and the point of contact between the Divine and the human (Chittick, 2012). It is the isthmus separating the Spirit and the domain of the soul and body (Lings, 1975/1993/1995). Its centrality means that its influence can be observed throughout the human, both in its material body and metaphysical essence. As Ibn Arabi explains:

It is which holds in the man's hand, which looks in his eye, which speaks in his tongue, which walks in his foot, which hears in his ear, and is present and in control in all his feelings. (as cited in Kuru, 2016, p.74)

As described earlier on, the human being is a threshold between two realities: the reality of material existence and the reality of the spiritual Being. These two dimensions meet and integrate in the sentient Heart. The Heart, therefore, is the faculty of direct spiritual and intellectual wisdom, yet, veiled. (Lings, 1975/1993/1995). As such, Lings (1975/1993/1995) compares man's soul to that of a clouded night, only able to receive some glimmer of light should the clouds be thin enough. Therefore, a clear sky makes for an *Insan Kamil*.

4.3.2 The Meaning of Human

The intention to bring about the development of the whole person, and not a fragment of a person, is the basic, essential concept that underlies the Sufi movement (Haeri, 2003). In order to do so, the illuminated scholar must strive to know the reality of himself through the knowledge of the Cosmos. It has been stated that we are “in this world, but not of this world” (A. Ahmad, personal communication, July 14, 2018). We are not of this world because our *nafs* is from God and we exist through God's Mercy in giving us life. According to Ibn Arabi, *nafs* is the reality of man, the link to the Divine Names and Attributes of God through its ability to know and understand itself by knowing the meaning of things in the Cosmos (Kuru, 2016). This means that only observations using the *nafs* shall enable us to truly ‘see’ reality. This is the differentiation of human compared to other creations, and it is this that gives the human the inward strength. As stated in the Quran, “And when his Lord revealed (His) glory to the mountain He sent it crashing down. And Moses fell down senseless” (Quran, 7:173). Had the human not possess this inner strength, he too would have perished.

However, what we see is not what is there, instead it is the heart that needs to be shown, depending on our ‘station’, as human being is the most polished and capable ‘mirror’ reflecting God in the Cosmos (Dogan, 2014). Being human is the locus of connecting the external physical reality with a timeless, spaceless dimension experienced within the self, while at the same time, in him is the representation of the 99 names of God. This is how the meaning of human is arrived at. As Dogan states, “while their physical component binds human beings to the system set in nature by God, their metaphysical nature enables them to be the best representatives of God on earth from the point of view to reflect Divine names and attributes” (2014, p.4). The

inner and outer are so interlinked that Sufis see them as inseparable and continuous- all pointing towards one unified Truth (Trevathan, 2013). Therefore, in Traditional Sufism, it is a human need, as relational beings, to be in a continual relationship with God.

5 FINDINGS: THE CONCEPT OF MIND

At the beginning of this thesis, I had pointed out that the differences in the concept of contemporary mindfulness from its origins in Buddhism was attributed to the emphasis given to practical applications and techniques as oppose to the fundamental models of nature of reality. Furthermore, by focusing on the operationalisation of mindfulness, contemporary mindfulness has severed the significant link of its origin in spirituality making it secular. The question then arises, why have contemporary mindfulness practitioners approached the concept in this manner? Further investigation led to the discovery that this was due to the way in which the concept of mind is understood in the non-East. I would like to caution, at this juncture, that this thesis refers to the non-East as a worldview that is ‘other than’ one based on the Eastern integral intellectual tradition and thought of Sufism as opposed to a geographical location. This by no means insinuate a homogenised perspective of the concept of mind in the Western world.

This chapter then investigates the concept of mind as it is understood in contemporary mindfulness synchronically, as well as diachronically, to understand how its interpretations evolved to what it is today. The findings are then juxtaposed to the concept of mind in Sufi thought tradition.

5.1 THE IMAGE OF THE HUMAN AND THE NATURE OF REALITY IN THE NON-EASTERN WORLDVIEW

In Chapter Two, I had described how the advent of new science was forged through the likes of Copernicus, Galileo, Descartes and Newton. Through Descartes’ dualism, mind and matter, psyche and world were separate realities via *res cogitans*, thinking subject, and *res extensa*, the material world (Burt, 1932/2003). The soul was inferred to as mind and human awareness a distinct feature of the thinker. Senses were thought as unreliable and prone to flux, error and distortion. In contrast, the physical universe lacks the subjective awareness, purpose or spirit that the thinking subject possesses, vacant of any human qualities resulting in the view that all physical phenomena are purely material objects, thus able to be understood as machines. Continuing this materialist thought, a contemporary of Descartes, Thomas Hobbes claimed that the

human originates from only one material substance (Duncan, 2017). As modernity continue to rise, a distinct separation of role became clear: natural scientists were regarded as the authorities to the objective, physical world; philosophers were considered experts regarding the mind; and theologians remained the authorities regarding the “super-natural” dimensions of existence such as God and the human soul (Wallace, 2009). Preserving the bifurcation of knowledge, the Scientific Revolution, as explained in Chapter Four, propagated a ‘non-intervening’ God, a notion that was also chronicled by Descartes who asserted that after creating the universe and defined its mechanical laws, God left the system to move on its own (Tarnas, 1991). Ultimately the universe is seen as simply composed of inanimate substance, best understood in mechanistic terms: reductively analysed into its simplest parts through its arrangement and movements, and thus inherently measurable. This was Reductionism, a feature of the then ‘new’ science (now Classical Science), as had been extensively explained in Chapter Two.

As a consequence of this scientific liberation, there was a new sense of disillusionment of all personal and spiritual traits that had given humans our sense of cosmic meaning since time immemorial. According to Tarnas (1991), this new worldview of a clockwork universe devoid of goals, purpose, intelligence or consciousness, subsequently resulted in the feeling of human alienation arising from a world that no longer responded to the fundamental characters of man. Moreover, this new self-contained mechanistic universe did little to offer a redeeming context to understand the greater concern of human existence. Instead, it revealed a distant, impersonal world.

This notion of divinity within the physical world and of man’s special spiritual status was further controverted with Darwin. Darwin’s theory amplified the consequences of Descartes’ Cartesian duality by asserting that the human is simply a successful animal with no higher purpose. This ultimately indicated that consciousness emerged by accident in the course of evolution.

The pursuit for material, secular explanations for all phenomena expanded into the psychological and social dimensions of human experience thus resulting in the modelling of theories in other disciplines based on this mechanistic view of reality (Capra, 1982). For example, Freud dramatically forwarded the principles of the objective, unambiguous material world in addition to the Darwinian perspective to the human psyche, developing a systematic structure to define the essence of the human (Kuru, 2016). According to him, human qualities of rationality, moral

conscience and spirituality are only reaction- formations and delusions, of the self-concept (Tarnas, 1991). In other words, consciousness and unconsciousness are merely divisions of mental life which will be further explained in the succeeding section. Additionally, Adam Smith propagated the “*homo economicus*” or the economic man in his book *The Wealth of Nations* further devaluing the human to a rationally calculating, profit maximising machine devoted to the accumulation of capital (Kirkpatrick, 2017). Through the principles of the (classical) Scientific Revolution, not only was nature reduced to a sum of its parts, but human nature, and thus the human himself/herself reduced. As La Mettrie, Pavlov, Watson, Skinner and others argued, since the universe as a whole is best understood a machine, then so too could the human (Tarnas, 1991). This reductionist view consequently resulted in what would become one of the biggest ongoing philosophical debate in the modern, Western world: the mind/body problem (Fisher-Høyrem, 2013).

5.2 THE CONCEPT OF MIND IN NON-EASTERN WORLDVIEW

Although the Scientific Revolution, which was attributed to have begun with Copernicus and ended with Newton (also known as the father of Classical Science) (Rabin, 2017), opened a new world to humankind in that it emancipated the material world, and thus science, from its long connection and constrain with theological dogma, the dichotomy between human mind and the external world ultimately separated human from God and the natural world. The consequence of this emancipation gave rise to the notion of a world consisting of two separate realms – one that is physical and one that is non-material, creating the body/mind duality as propagated by Descartes. Eventually, as explained in Chapter Two, the legacy of bifurcation of knowledge gave prominence to the material realm, subsequently triggering a proliferation of varied perspectives about the mind/body interaction. This section identifies some of the landmark features of the philosophical landscape that is used as general orientation markers in navigating the philosophy of mind terrain.

5.2.1 Historical Narrative on the Philosophy of Mind

By the end of the nineteenth century, natural science had made tremendous progress in its understanding of the physical world, yet the philosophers were still unable to come to a consensus regarding the subjective realm of the mind (Wallace, 2009). This resulted in a turn of attention by scientists towards the realm of mind, focusing on its behavioural expressions and neural correlates, confining the study of mind to physical phenomena associated with ‘ordinary states of consciousness’ (Wallace, 2009, p.5). By the early twentieth century, Psychology, like many other disciplines in the ‘soft sciences’ at the time, began adopting scientific and objective methods of investigation (McLeod, 2017). This move, termed ‘physics envy’ by Clarke & Primo (2012) and Fish (2000) (as cited in Howell, Collisson & King, 2014), was an attempt to gain scientific prowess and legitimacy of a ‘hard science’ like Physics, eventually giving rise to Behaviourism. This began the start of the modern mind/body debate through the likes of John B. Watson, BF Skinner and Ivan Pavlov, among others (Fisher-Høyrem, 2013).

Due to the materialist limitations of the (classical) scientific methodology, proponents of Behaviourism set out a number of underlying assumptions based from this ‘hard science’ requirement: 1) that all behaviour is learned as humans are *tabula rasa*; 2) psychology as a discipline is purely objective and experimental thus internal events such as introspection is considered unscientific and of no value to human behaviour; 3) there are no fundamental, qualitative distinction between the behaviour of humans and animals- the difference is only in the degree of complexity; 4) all behaviour is merely a result of simple stimulus-response mechanisms; and 5) consciousness, if acknowledged at all, was only secondary to these rudimentary mechanisms of the human, meaning that the mind is merely epiphenomenal (Wallace, 2009; Fisher-Høyrem, 2013; McLeod, 2017). Ultimately, the goal was to master human behaviour through prediction and control by reducing the human to simpler parts (Fisher-Høyrem, 2013). These assumptions resulted in a shift in the way the mind was understood and eventually, Behaviourism’s tenets which were in vogue with the reductionist view of the time, became influential across various academic disciplines (Kim, 2018).

In philosophy, the assumptions of Behaviourism influenced the view that states of mind- emotions, thoughts and intentions- were simply ways of behaving (Graham, 1998). For example, being sad was merely an inclination to behaving in such a way and not an inner state, let alone

one with a non-material essence. Ruling out the notion of an inner, non-material self, the belief was that something had meaning only if it can be observed empirically and verified through the Principle of Verificationism (Fisher-Høyrem, 2013). The mind was considered to exist only if there was a way of testing it through observing human behaviour. A barrage of criticism soon followed suit as many philosophers and psychologists rejected the assumptions of Behaviourism, arguing that its tenets not only ignores subjectivity and past one-off events like the Big Bang, its principles fail to adequately account for the complexity of human nature as well as the failure of the principle of Verificationism in verifying itself (Fisher-Høyrem, 2013). For instance, Noam Chomsky in 1959 argued that Behaviourism was not able to explain the ability for humans to learn and use language (Virués-Ortega, 2006). Subsequently, by the end of 1950s, there was once again a renewed interest to the inquiry of ‘what is mind’.

According to Fisher-Høyrem (2013), the mind/body dispute entered into mainstream metaphysics from two papers published in 1958 that put forth key concepts of the mind that remain debated to the present day: ‘Sensations and Brain Processes’ by J.J.C. Smart and ‘The ‘Mental’ and the ‘Physical’ by Herbert Feigl. Both papers propagated the “‘Mind/Brain Identity Theory’, ‘Type Physicalism’ and ‘the Brain State Theory’” (Fisher-Høyrem, 2013, p.5). These theories ultimately presented the view that the mind and the brain were identical in its states and processes, ultimately making the mind completely physical (Smart, 2007). Moreover, subsequent contemporary philosophers such as the likes of D.M Armstrong and David Lewis took the Mind/Brain Theory further and attributed that all mental states and processes can be defined causally – “mental state is the concept of something that is, characteristically, the cause of certain effects and the effect of certain causes” (Rosenthal, 1984, p.81). Drawing criticism, some of these theories, such as the Brain State Theory, were short-lived. The argument was that if mental state was identical to physical state, then it must be identical to a specific physical state, which is not always the case. For example, Hilary Putnam (1975) argued that it is impossible to identify human pain (mental state) to a particular neuron (physical state), in this case the C-fiber, as neural substrata vary from person to person and that there are animals without this nerve fiber yet able to experience pain. This was known as multiple realisation.

Consequence to the objection of the view that a mental state must be identical to a physical state, Functionalism came to the fore. The theory’s premise was that instead of being physical states, mental states are functional states and can be realised by multiple systems (Tye, 1983).

This means that mental properties were relational to their physical properties but not defined by, reducible to, or identical with the physical properties, a view that was embraced by the then emerging field of cognitive science (Kim, 1997). To support the (lack of) explanation for the realisation relationship in Functionalism, the theory of Supervenience was used to denote the ontological relationship of lower-level properties determining its higher-level properties, ultimately denoting a physical substratum in the human (Kim, 1993/1995). This resulted in the comeback of the notion of ‘emergence’ into the mind/body debate once again, both in mainstream philosophy and scientific literature. These theories of emergence assume that higher-level mental properties emerge from lower-level physical properties due to evolution such as mentioned in Varela, Thompson and Rosch (2017). Furthermore, according to Mercer, emergent properties refer to traits that arise from the collaborative functioning of a system (Price, 2018). Without these combined functions, mind would cease to exist due to its causal nature. For example, as a system becomes more complex resulting from various, less complex subsystems, new qualities emerge creating new, undiscovered mental properties (Fisher-Høyrem, 2013). However, theories of emergence often do not offer adequate explanations to the relationship between the mind and the physical. For instance, Velmans mentioned that the notion of emergence of mind require some sort of ‘miracle’ when explaining the sudden trigger of consciousness during the emergence of a particular low-level mental function (2012). As concerns regarding the metaphysical element attached to the mind increase, contemporary mind/body debate consequently steered away from this fundamental metaphysical nature of the mind.

5.2.2 Contemporary Philosophy of Mind

Moving away from the metaphysical issues in the mind/body debate enabled modern philosophy (19th and 20th century) to explore the theory of mind from a more physicalist point of view. Physicalism, traditionally, is the view that theoretical (Classical) physics can explain everything in the universe as it is the most fundamental and complete of the sciences (Papineau, 2001). According to Wallace (2009), the dominant position in contemporary philosophy of mind is rooted in a physicalist or materialist framework that is ultimately influenced by Descartes’ Cartesian dualism despite contemporary philosophers rejecting its concept. For example, the Brain

State Theory although fleeting, was pivotal in contributing to the fundamental framework on the philosophy of mind with regards to specific notions of reality, causation and matter up to the present day (Kim, 1997). In other words, while the notion of mind may have changed over time since Descartes, his successors are still operating within the framework that he set out and continue to do so to this day. An example of this can be seen in the understanding of matter in modern (classical) science which is rooted in Descartes' *res extensa*- that the material world is extended in space and time as explained in Chapter Two. What this means is that the characteristics that are considered vital in matter are those with spatial features – solidity, shape, size and locomotion (Fisher-Høyrem, 2013). 'Perceiver-dependent' features like colour, smell, sound and taste, on the other hand, are considered secondary and not part of the mind-independent reality (Fisher-Høyrem, 2013).

As described at length in Chapter Two, tenets of Classical Science view an object's causal powers as being limited to only material and efficient causes which assumed the physical realm as being causally closed. This understanding is described by Papineau, "when we are within the physical realm, we will find that every physical effect has a physical cause" (2009, p.54). This means that for someone to have a mental property X, he/she must have the physical property Y that necessitates X. Ultimately, this suggests that our character is solely determined by our physical nature. And although there has been a great deal of exploration of the different views and challenges to the concept of mind, certain implicit features of this Cartesian-Newtonian version of the mind and how it should be studied remains inherently entrenched in present day social sciences including psychology as the view of reality and human nature remain Classical Science in principle. As Wallace (2009) suggests, the assumption that all possible states of consciousness are nothing more than functions or emergent properties of the brain continue to be accepted without question by most cognitive scientists. In fact, he continued, many neuroscientists go so far as to claim that the mind is nothing more than the brain despite not having evidence to verify this hypothesis (Wallace, 2009).

5.2.3 Concept of Mind in Contemporary Mindfulness

In Chapter One, I had explained how contemporary mindfulness was first popularised in the field of medicine and psychology by Jon Kabat-Zinn as a method to help people cope with stress, pain, anxiety and illness. I had also explained how the mind is viewed in contemporary philosophy and psychology in the preceding sections- that the mind is a derivative of the brain, activated by the neurons within it. This view is in line with contemporary mindfulness where the notion that the mind is an emergent property of the brain is taken on. Instances of this view are seen in the illustrations of mindfulness in practice as demonstrated by Langer & Moldoveanu (2000). According to them, mindfulness in learning includes instructing people to vary the stimulus by way of mindfully noticing new things about it in order to improve attention, memory and increase the likeability of the task. Furthermore, Langer & Moldoveanu (2000) described how mindfulness can be used as a means to interact with computers, understand mental retardation and focus on cognitive processes that go beyond immediate algorithmic representation. All these point to the brain. Although conclusively Langer & Moldoveanu (2000) asserted that mindfulness is not a cold cognitive process, through the examples given, it establishes that at the end of the day, mindfulness is still seen as a cognitive process, albeit not “cold”. One of these features is through the understanding of mind as consciousness in relation to memory, a cognitive capacity (Fabbro, Crescentini, Matiz, Clarici & Fabbro, 2017).

As explained earlier, the notion of the mind as physical was further popularised through the ‘cognitive revolution’ where the study of the mind, specifically in psychology, was associated to the brain and its processes were akin to computers contrived by evolution through natural selection (Gallistel, 2012). This interdisciplinary study, which is now known as cognitive science, led to the belief that the human mind is comparable to a computer thus making mental phenomena an algorithmic, neurobiological process taking place in the brain (Langer & Moldoveanu, 2000). This 20th century cognitive science ultimately became engrossed with a view that had already been crystalline through the late 17th and 18th century where mental properties were a result of a physical structure as that of the brain (Chomsky, 2006). And although the opinion of mind as computer is contested today, by and large, the hegemonic view in the non-East of the concept of mind as well as in contemporary mindfulness, is still related to this notion that it is an epiphenomenon of the brain, responsible for rational discursive and analytical functions in the human. For example, Sternberg (1985), the originator of the triarchic theory of

intelligence, believes that mindfulness is a cognitive style and that intelligence is an emergent property of cognition, rising from the brain.

This fixation with the brain is not solely applicable to contemporary mindfulness but in contemporary research as a whole, as can be seen in the current exponential growth in the research and understanding of brain function, DNA and biology (neurosciences) (Fisher-Høyrem, 2013). In contemporary research of the mind, the brain is the compulsory and sufficient condition to consciousness: our identity is our brain (Greenfield, 2008). Other features of what makes us human have been neglected or consolidated with neurochemical brain processes (Fisher-Høyrem, 2013). This situation where fundamental questions of the ontological status of the mind and what is human are pushed to the fringes is acknowledged by Brülde & Radovic where they asserted that contemporary writings on mental disorders have almost always focused on what makes a mental disorder, a disorder as opposed to what makes a disorder mental (2006).

While there have been new theories put forth recently in an attempt to address this concern, such as the Embodied Cognition model where although the brain remains the locus of interest, the theory acknowledges that: 1) the brain cannot be separated from the body; 2) the embodied brain cannot be understood outside of its environment (the human); and 3) the embodied brain is always understood in relation to other people, these theories ultimately retain a particular view of reality and human nature that is steeped in Classical Science assumptions (Fisher-Høyrem, 2013). Therefore, it is fair to say that the understanding that the mind is as an emergent quality of the brain as acknowledged in contemporary mindfulness literature, is a consequence of the reductionist view of the human as material beings and a sum of individual parts instead of being-qua-being. As NASA states, “the definition of life is a sustained chemical system capable of undergoing Darwinian evolution” (Wendt, 2015, p.134). That mind is a derivative of matter is a belief essentially rooted in the Cartesian-Newtonian view of Classical Science (Delbrück, 1986) which ultimately represents the nature of reality in the non-Eastern construct - that the universe is material, observable, predetermined, empirical and devoid of consciousness. This view of the human and the universe cannot be more different than in Sufi thought tradition as illustrated in Figure 12.0. Unlike in the Sufi/Islamic model of life, non-Eastern classical science view humans only at the point of embodiment should there be a comparison, not recognising that the human also exists in its un-embodied and dis-embodied forms. More-

over, the embodied human of classical science is not akin to the Sufi embodied human, as humans through Darwin's theory, evolved from, in the perspective of Sufism, "below" humans or apes.

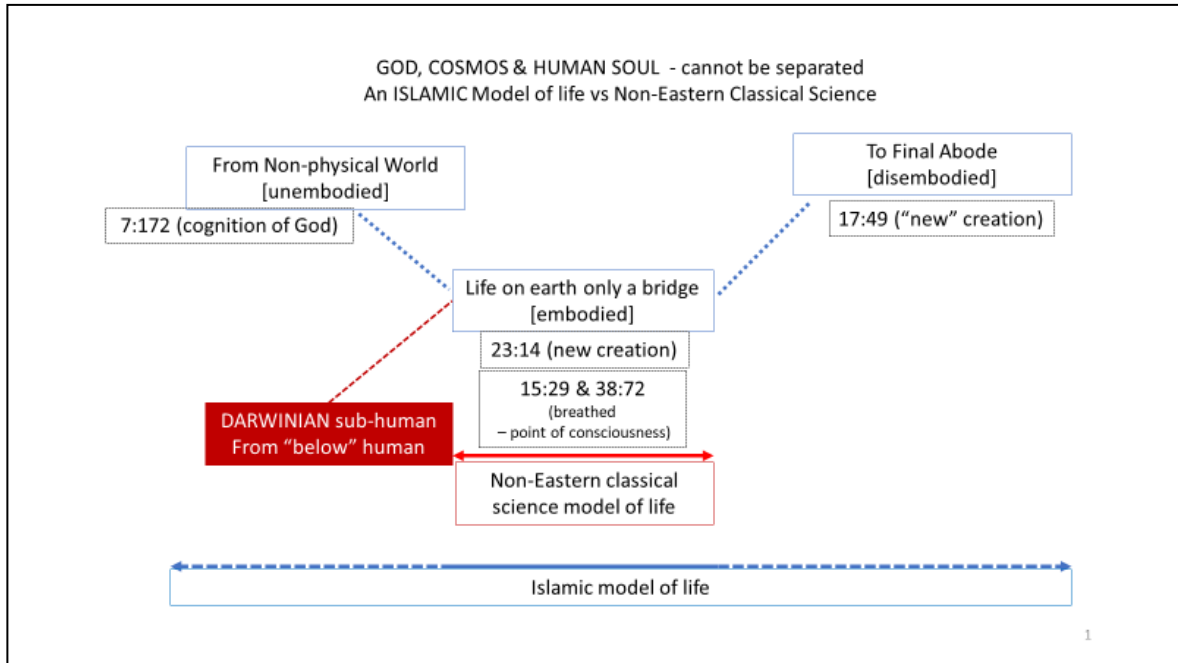


Figure 12. The Islamic (Sufi) Model of Life vs Non-Eastern Classical Science, adapted from A. Ahmad, personal communication, April 5, 2018.

5.3 MIND AND MATTER IN QUANTUM SCIENCE

The preceding section explained how contemporary concept of mind is still fundamentally rooted in the Cartesian-Newtonian view of Classical Science, that mind is an emergent quality of a physical matter. Resultantly, contemporary concept of the mind is now facing essentially similar challenges that once side-lined dualism with regards to the mind/body problem albeit under a different guise- the problem is now finding a place for the mind in a world that is ultimately material (Fisher-Høyrem, 2013). We know that physical science has moved into post-modern science of the Quantum yet, its understanding of human consciousness has had little bearing on the concept of mind in the non-Eastern thought dominion. The question then arises, why has Quantum Science not had significant influence on the contemporary concept of

mind in mainstream research and how do Quantum Scientists approach the understanding of mind?

Findings from Quantum Science literature show that Quantum Science has its beginnings from the community of non-native English-speaking physicists, more specifically those whose language is German. The writing by Schrödinger translated as “Mind and Matter” from its original “*Geist und Materie*” as mentioned in Chapter 2 perhaps holds the key to why the concept of mind remains a physical and material conception despite science moving into the Quantum. *Geist* as a German noun denotes spirit in contrast to *Materie* which is matter/material subject (Schrödinger, 1958). Logical deduction alone would be able to reveal that in the context of Quantum Science, *Geist* cannot be a term to also represent matter when the discourse is about the different realms. In German, mind is *Verstand* (Schrödinger, 1958). However, when *Geist* was translated as “Mind” in English rather than “Spirit”, the spiritual, non-material aspect of *Geist* was lost in translation. This issue of translation has been cautioned as having tendency to bring along the cultural background of the “translatee” language. With “Mind” being seen as an emergent property of the physical neuronal activities in the brain, a concept that is generally accepted within the Anglo-American tradition, the German spiritual philosophical dimension of *Geist* disappeared within the scientific communities. This possibly could be a reason as to why the Quantum understanding of mind as *Geist* has not significantly influenced the contemporary concept of mind.

More recently, the issue of mind as matter was also raised by Quantum Scientists. Repeating what was addressed in Chapter Two, Frank (2017) argued that even physicists are unable to explain what matter is made of. He asserted that the closer one looks at matter, the shakier the materialist position in physics appears to be, as matter seems to rest on metaphysical ground (Frank, 2017). Although materialists appeal to physics to explain the mind, post-modern physics is still unable to explain the particles that make up the brain, and its essence remains, in many ways, as mysterious as consciousness itself (Frank, 2017). Therefore, when neuroscience asserts that mind is matter, physicists demand of them to describe what matter is as they are only able to explain how matter behaves. This is essentially the most recent findings and hence the view of mind in Quantum Science.

Since the underlying “stuff” of matter is still a mystery, then elements of physical cosmology to that of the physical human body is still unknown causing many Quantum Scientists, such as the likes of Nobel prize winner Max Delbrück, to abandon the notion that the mind is an epiphenomenon of the brain (1968). However, what is known in Quantum Science is that what you see is contingent upon you, your state. This plurality of physical reality and self essentially means that what we perceive to be real is only an appearance because both are made from the same elements of sensation and perception. For example, when touching the Physical Tree and when I see and perceive it being the Psychological Tree, I am still me. This means that the tree that I see and perceive has the same elements as when the tree is telling me what it is. Both are illusions but not in the same way as hallucination as briefly touched upon in Chapter Four. This concept of illusion or *khayal* can be explained through Traditional Sufi literature where upon the attainment of knowledge of our Divine nature, our veil is lifted to display reality as described by Ibn Arabi in his writing *Fusus al-Hikam* (The Bezels of Wisdom),

The universe is an illusion,
But it is true in reality,
Whosoever understands this,
Has grasped the secrets of the Way. (as cited in Benaïssa, 2004)

The entire empirical world in Traditional Sufism is an illusion within an illusion (Benaïssa, 2004) So, if the entire physical world is *khayal*, the question then arises- who is the “I” questioning the tree? Quantum Science like its predecessor (Classical Science), is unable to answer this question forcing many Quantum Scientists such as Schrödinger and Heisenberg to transcend physical science into the realm of spirituality and religion in search of a foundation to support their findings. This was how Schrödinger was able to distinguish *Geist* from *Materie*.

The “I” is ultimately the quality of me, best explained through the analogy of a baby and his mother. When a baby looks at its mother, he does not see the identity of the mother, but instead the quality of her. This quality cannot be ‘polluted’. Fundamentally, the issue is not an epistemological one, but of the ontic state, paralleling the Sufi thought tradition. If my ontic state is high, almost angel-like as explained in Chapter Four, then at the point of where the Quran was brought down, I will see its essence and meaning without as there would be no ‘corruption’ between the language of the Divine and myself.

5.4 SITUATING THE MIND IN TRADITIONAL SUFISM

To recap, Traditional Sufism presupposed that *insan* is metaphysical in essence and upon its embodiment, was at once imbued with consciousness, ultimately linking us to the Divine. Everything we know emerges from this consciousness. It is what triggers the ability for the human to manifest the representation of God's Names in the form of action and deeds through the regulation and restraining of the *nafs* (soul). Humans must be constantly aware and conscious of the level of the state of *nafs* we are in, knowing that our *nafs* vacillate between angelic-like and bestial-like. Thus, based on the preceding discussion, central to the Sufi tradition is God-consciousness which occupies the human's thought and memory. In Sufism, the faculties responsible for thought and memory are the '*aql* and *qalb*, also known as Intellect and sentient Heart as referred to by Al-Ghazzali (Kuru, 2016).

The concept of '*aql* (intellect) in Islam and thus Sufism, is of utmost importance, appearing in the Quran, in its various forms, 62 times (Hassan, 2011). Its verb '*aqala* means to "use one's intelligence, to comprehend, to understand and to think" (Hassan, 2011, p.2). For example, the expression "*afala ta'qilun*" where *ta'qilun* is the second person plural form of '*aqala*, occurs 13 times, is translated to "Will you not understand? Or Have you then no sense" indicating the significance of the use of intellect in the human not only for thinking, understanding and knowing, but also for reflection, pondering and contemplation (Hassan, 2011, p.2). Additionally, in the Quran, *ta'qilun*, translated to "you understand", is used mostly in conjunction with signs and symbols of God, signifying how the intellect helps humans to understand His signs as witnessed in the Quran and nature, pointing towards "His absolute power, wisdom and will" (Hassan, 2011, p.2).

This intellect ultimately has been entrusted to play key roles in confirming revealed truths by Divine revelation, as well as in the progress of all fields of human knowledge to reach *insan al-Kamil* (the perfect man) status, where revelation and reason exist in perfect balance. The Quran describes this ability in the human where he/she is able to apply his/her intellect to understand the signs of God's action through methods of rational discernment (*ta'qqul*) and reflection (*tafakkur*) while using methods of deep pondering and contemplation (*tadabbur*) to understand the signs of God's words in the Quran, at the same time earnestly taking heed of His message and warnings (*tadhakkur*) (Hassan, 2011). To surmise, it is an obligation in Sufism to adopt

reflective thinking while recollecting God's messages as the entire Cosmos (including the non-material, moral and spiritual parts) is essentially subjected to human thought, reflection, contemplation and meditation (Hassan, 2011).

In Chapter Four, I had explained that one of the paths to Islamic knowledge is by way of reason and rationality through '*aql*' in which proponents of such route is known as *filasifa* or philosophers. It is this notion of '*aql*' as reason and rationality that is often being equated to the mind in non-Eastern perception. However, to take this understanding to parallel the concept of '*aql*' in Traditional Sufism is misguided. According to Al-Ghazali, the relationship between the sentient Heart and the '*aql*' is like the bond between the mechanic and his tools (Kuru, 2016). This connection is established in the Quran, demonstrating how the heart possesses faculties of intellection and understanding through the passage below, describing 'a people' that did not use their intellect to derive lessons from history,

Have they not travelled in the land, and have they hearts by which they could comprehend (and gain wisdom), and ears by which they could hear (the truth)? For indeed it is not the eyes that have become blind, but it is the hearts, which are within their bosoms, that grow blind. (Quran, 22: 46)

Therefore, in Traditional Sufism, the intellect is not an emergent property of a physical form, with its apparent location having nothing to do with the placement of the brain, but instead stands on its own merit as a faculty through '*aql*'. In fact, Sufis often refrain from pinpointing the location of the '*aql*' and instead, are content knowing that it is situated in the essence of human, in the metaphysical, just like the *qalb*. And when it comes to methods of knowing, in the Sufi thought tradition, empiricism is not needed to perceive the analogous tree as it is essentially utilizing Language of the Self. This essentially leads to the word mind and how the concept, as understood in contemporary mindfulness, does not appear in the Quran. Therefore, the concept of mind in Traditional Sufism relates to the understanding of mind in Quantum Science through a number of aspects: 1) that the "stuff" that makes it is non-physical in its essence; 2) the location of mind cannot be pinpointed to; and 3) the theory of epiphenomenon is questionable as the 'place' where mind comes from is unknown.

6 DISCUSSIONS AND IMPLICATIONS

This thesis had set out to uncover the position of mindfulness in Sufi Eastern integral intellectual tradition and thought by exploring the nature of reality and the concept of mind in Sufism and contemporary mindfulness. With its origins in Buddhism, contemporary mindfulness adapts the traditional concepts as espoused by the Buddha to fit into Western standards of effecting change, often deconstructing mindfulness into mechanisms and active components turning the concept secular (Monteiro et al., 2014).

The discovery from initial review found that: 1) contemporary mindfulness literature rarely address the fundamental nature of reality and the nature of human; and 2) there are hardly any mention of mindfulness in Traditional Sufi literature. Upon further investigation, it was revealed that mainstream non-Eastern research paradigms were not able to appropriately explain the ontological “both/and” view of Traditional Sufi reality as well as support the fundamental principle of God in Sufi tradition, forcing me to adopt Quantum Science as my research paradigm. This adoption naturally led to the second aim of this thesis which was to explore whether the principles of Quantum Science parallels Traditional Sufism and/or contemporary mindfulness.

Again, I would like to expound that the non-Eastern view I had put forth in this thesis principally refers to modern Western dominant views following the advent of the bifurcation of knowledge as explained in Chapter Two. It does not by any means suggest that all Western framework share the same point of view with regards to the nature of reality and nature of human. There are frameworks that exists, prior to the bifurcation such as one propagated by Thomas Aquinas based on Christian spirituality that do not share the same set of assumptions of Classical Science. Moreover, Quantum Science is Western in origin.

From these aims, research questions were formulated based on the Buddha’s notion of mindfulness - that in order to address suffering, which he attributes to issues of deeper existential reality, one must first address the nature of reality and the nature of human.

To recapitulate, the following section provides a summary of the thesis findings from the research questions.

6.1 SUMMARY OF FINDINGS

In Traditional Sufism, nature of reality consists of the metaphysical realm and the physical realm, with the physical realm comprising of both the seen and unseen realities as seen in Figure 14.0. Everything in the Cosmos, referring to both the metaphysical and physical, originates from God, as the Creator and Divine Truth. And since God is beyond physical, therefore the essence of reality is ultimately metaphysical. Taking on this view on the nature of reality, Traditional Sufi's perspective on the nature of human is that we are created with God's Divine Names and Attributes, which exist in polarities, embodied within us through His breath, our spirit. By breathing His breath into our physical form, He created our soul. The human soul consists many levels, oscillating between the lower soul which is bestial-like and the higher soul which is angel-like. And this soul continues to exist even after our physical frame has returned to the earth, to meet God in the metaphysical realm. How the dis-embodied human meets God is dependent upon the manner in how we have lived our lives in the physical realm.

This concept is also transposed into the nature in how humans live in the physical realm – that we exist in a threshold between two polarities, two realities. Thus, how we see reality depends on the level of our soul. This ultimately points towards the understanding that humans are metaphysical in essence. Since we are metaphysical at core, the concept of mind in Traditional Sufism is not based on the notion that it is an epiphenomenon of a physical location. Instead, our ability to represent God's Names and Attributes comes with our consciousness and awareness through the faculty of *qalb* or sentient Heart and the ability for reason, rationality and discernment comes from the faculty of *'aql*. These two faculties stand on their own merit and is more complex than just as a means for logical deduction. As Chittick (2012) explains, the *qalb* is the seat of personhood.

In contrast, contemporary mindfulness does not share its fundamental views on the nature of reality and the nature of human with Traditional Sufism. Started by Jon Kabat-Zinn as a means to help reduce stress and anxiety in the fields of medicine and psychology, the thesis discovered that the implicit assumptions grounding contemporary mindfulness is one that is rooted in a view that is essentially, according to McGilchrist (2009), modern and Western based on the framework of Classical Science – a consistent position with many disciplines in the social sciences and humanities today. The nature of reality in the Classical Science framework can be traced back to the time of the bifurcation of knowledge, where the integral worldview was

separated into the realms of natural philosophy, concerned with everything that can be seen, and supernatural philosophy, where things that cannot be seen are left in the fringes. This division ultimately resulted in the Scientific Revolution which gave rise to Classical Science where: 1) reality exists only physically and thus observable; 2) the universe is mechanistic and can be reduced to a sum of its parts; 3) reality is causally closed stemming from a material “matter”; 4) space and time are absolute; 5) subject and object can be separated and is separable; and 6) human is discrete, stand-alone and independent. These tenets, consequently, placed importance on the physical, with the metaphysical becoming a secondary emergent property of matter resulting from causality.

As a result, the human too became mechanistic and reduceable with human actions empirically deducible through observing one part of the whole. This notion is further strengthened with Descartes’ duality, separating the soul from the body. The soul was inferred to as mind and human awareness a distinct feature of the thinker. Senses were thought as unreliable and prone to flux, error and distortion. Darwin’s theory of evolution further removed the spiritual status of the human and Freud took it one step further by inferring that human qualities of rationality, moral conscience and spirituality are only reaction of mental life, stemming from the brain. And although duality is no longer accepted in many contemporary thoughts, the notion that it is the physical that matters remain to this day through the enduring axioms of Scientism. One of the consequences on the influence of Scientism in the nature of human is in the view that the mind is an epiphenomenon of the brain resulting from neurochemical brain processes, and that it is a sufficient condition to consciousness. The mind, as functional states, are relational to their physical properties but not defined by, reducible to, or identical to them.

This view remains the arbiter for the concept of mind in many disciplines such as in the field of cognitive science and experimental psychology. However, given the many issues with theories of the mind in the 20th century, contemporary research regarding the mind has moved away from the fundamental questions of what mind is, and what makes mind, mind. This resulted in many contemporary researches of the mind to only focus on the brain and matter, as seen from the rise of studies in the fields of neurosciences, DNA and biology. Yet, by moving away from the fundamental questions ensured that implicit assumptions on the nature of human and reality that dominate views of the mind in non-Eastern perspective remains rooted in materialism. Characteristics that are considered vital in matter are those with spatial features – solidity, shape, size and locomotion (Fisher-Høyrem, 2013). ‘Perceiver-dependent’ features like colour,

smell, sound and taste, on the other hand, are considered secondary and not part of the mind-independent reality.

Yet although the tenets of Classical Science seem to be enduring in the fields of social sciences and humanities, physics has moved into post-modern physics of the Quantum with its three foundational principles of Observer Effect, Uncertainty Principle and Entanglement. To recap, Observer Effect demonstrates the consequence that the observer or experimenter has on the result of the experiment. As Heisenberg noted, “the discontinuous change in the probability function...takes place with the act of registration, because it is the discontinuous change in our knowledge in the instant of registration that has its image in the discontinuous change of the probability function” (Stapp, 2007/2011, pg.8). Uncertainty principle is the law where matter remains in a state of uncertainty until it is observed. This state is also known as Superposition. Entanglement is the identical behaviour of two separated ‘bits of matter’ or photons when one of it was being measured. This property led to the invalidation of Einstein’s theory of locality, that nothing could travel faster than the speed of light, thus giving rise to non-locality. These principles became the foundation of Quantum Science’s interpretation to the nature of reality and subsequently the nature of human which answers the second research question.

In Quantum Science, reality is shown to consist of two interconnected realms of the physical and the non-physical where Schrödinger had used the analogy of the tree as already explained throughout the thesis. The physical reality is based on the objective reality, given as an example in this thesis as the Physical Tree. The non-physical reality refers to the subjectivity of the human, or the Psychological Tree. According to the principles of Quantum Science, it is the non-physical reality that ultimately impacts the physical as what is observed is not the Physical Tree itself, but the tree exposed to the human’s method of questioning (Heisenberg, 1958/1962/1989/1990/2000). This implies that the Physical Tree is observed differently depending on the state of the observer. Ultimately, Quantum Science suggests that: 1) reality is non-dual, inferring to a both/and, “physical-and-personal” reality; 2) the universe is indeterministic and probabilistic; 3) physical matter is ultimately massless and in a constant state of potentiality when unobserved; 4) spacetime is only a subject and not the backdrop of reality; 5) the non-separability of subject and object due to Entanglement; and 6) human is relational instead of discrete and independent. By placing importance on subjectivity, Quantum Science has once again placed humans at centre stage as it delves into the very essence of the non-empirical: of consciousness and of life itself. Without consciousness, ‘matter’ continues to dwell in an undetermined state of probability implying that humans are in fact, not mechanis-

tic and far more significant than an evolved animal. It also infers to the complexity of the human and thus, cannot be reduceable to only a sum of its parts. Instead, humans as relational beings are connected to everything within the Cosmos.

Yet, although being accepted as an integral, inseparable feature of reality, the topic of consciousness is a point of debate for many Quantum Scientists. As a whole, there are three main camps: 1) those that although acknowledging the significance of consciousness, are in the view that it should be left alone - Quantum Science should only focus on the calculations; 2) those that view that it must emerge from a physical location in the body, a pathway which have been adopted by neuroscience; and 3) those that view consciousness as stemming from something greater than just the physical form of the human as it is ultimately connected to the larger universe. The last view is adopted by many of the founding fathers of Quantum Science such as Heisenberg, Schrödinger, Bohr and Pauli. More recently, findings in Quantum Science demonstrate the indeterministic nature of physical matter forcing Quantum Scientists to conclude that the “stuff” that makes up matter is still unknown, pointing towards something metaphysical in nature. This latest view of matter is consistent with the position of view on the concept of mind in Quantum Science that has been adopted in this thesis.

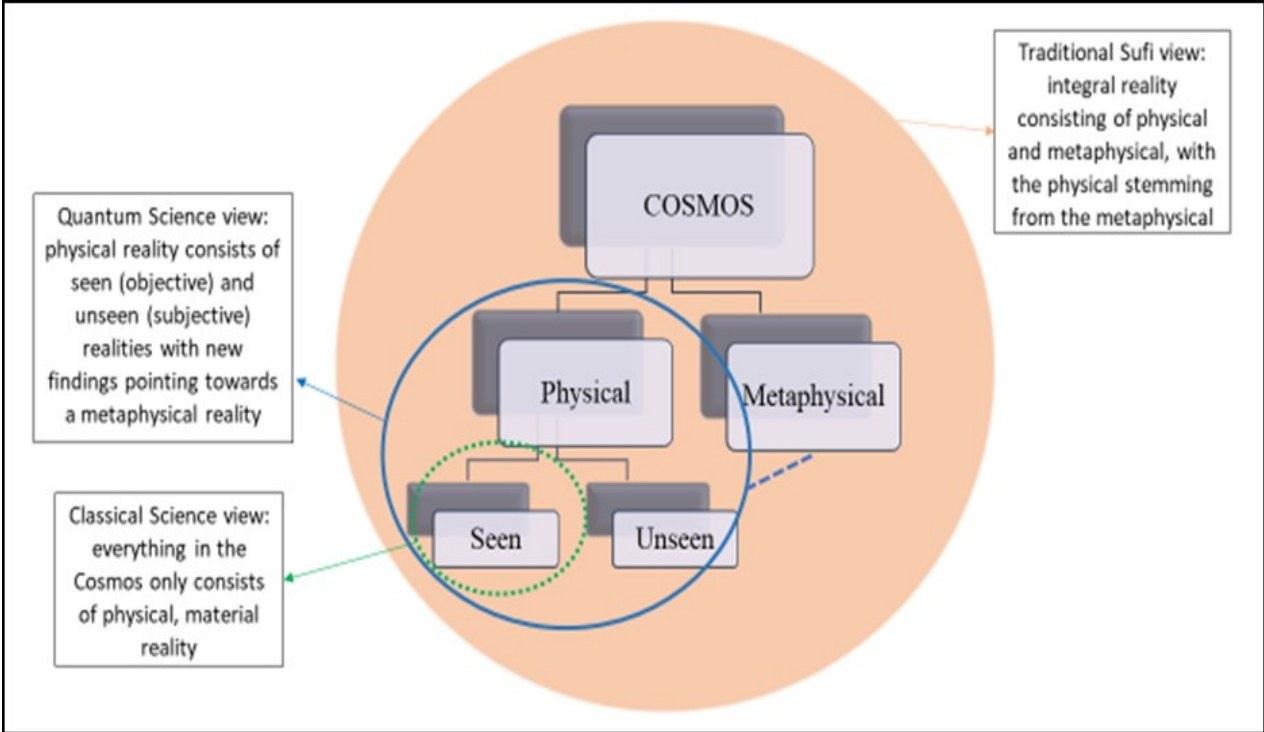


Figure 13. Nature of Reality in Traditional Sufism, Classical Science and Quantum Science

6.2 DISCUSSION ON FINDINGS

From the findings, it can be said that this thesis has ultimately considered three different frameworks in viewing the nature of reality and the nature of human which ultimately influences the understanding of the concept of mind: the contemporary mindfulness view, the traditional Sufi view, and the Quantum Science view. The thesis findings demonstrate that the two latter frameworks offer alternative views to the dominant perspective on the nature of reality and the concept of mind, which is still largely shaped by the same assumptions that has influenced the framework of the former, one rooted in Classical Science.

Findings also show that perhaps the reason for contemporary mindfulness literature to remain partial towards Classical Science is because, like many other contemporary researches, they often do not address the fundamentals such as questioning the nature of reality, and thus, the assumptions that come along with it, but instead focusing on the mechanisms of mindfulness and its active components. For example, according to Black (2014), research into the mechanisms and effectiveness of Mindfulness-Based Intervention (MBI) has grown exponentially in the last five years (as cited in Monteiro et al., 2015). This contemporary research approach to mindfulness has been criticised by traditional mindfulness communities as it resembles scientific materialism which is inconsistent with the original teachings of mindfulness (Monteiro et al., 2015). Likewise, in psychology, current research often delves into the notions of illness and disorder from multiple and varied angles yet, the fundamental question of the mental and the mind were left conceptually bare (Fisher-Høyrem, 2013).

And although “physical” sciences have moved away into the post-modern era of Quantum Science, the strong sense of Scientism among the academic disciplines today continue to give primacy to empirical accounts of reality and so, maintaining the implicit assumptions of the Newtonian-Cartesian framework as a legitimate way to knowledge. These assumptions demonstrate that the notion that the concept of mind is an emergent property of the brain is not a concrete, default view of science but instead, resulting from historical circumstances. Quoting Arjun Walia, Nassim Haramein, a well-known scientist who have spent over thirty years researching and discovering connections in physics, cosmology, quantum mechanics, biology, chemistry, anthropology and ancient civilisations, stated that to search for consciousness in the brain is akin to searching in the radio for the announcer (Higher Journeys, 2017).

On the other hand, both the frameworks of Traditional Sufism and Quantum Science demand a deeper and richer understanding of reality and thus matter, that goes beyond just the physical. By placing importance on the metaphysical, these frameworks provide a better foundation for the understanding of the complexity of the nature of reality and thus, the nature of human, in a way that does not ostracise or relegate the mind. Given the findings, it appears that the principles of Quantum Science very much parallel Traditional Sufism: both view reality as “both/and”; place importance on subjectivity and the human; view how physical reality is constructed is dependent on the “ontological level” of the observer; and that matter is ultimately metaphysical in essence.

Hämeen-Anttila (2006) states that there is a striking resemblance between some concepts of (quantum) physics and the immutable entities – things found in the Cosmos that manifest all the attributes of beauty and majesty. For example, in Traditional Sufi literature, the ‘Perfect Man’ is often referred to as one who is enlightened whose awakened heart is possessed with the light of consciousness (Haeri, 2003; Russell, 2004). In fact, light is paramount in describing God whose Divine Light permeates the one who is “whole”. This symbolic representation of light is fundamental in Classical Sufi tradition as is physical light to the universe and thus, science. As explained in Chapter Two, light was the anomaly that shook the preceding worldview that was rooted in Classical Science, giving rise to the three main principles of Quantum Science. This dual nature of light reflects its Creator in that His attributes are always in polarities. Additionally, the human lives in a constant state of ‘in-betweenness’, moving between the poles of God’s attributes, much akin the atom being in a constant state of Superposition until observed. In the words of Heisenberg, “its form is between the idea of a thing and the thing itself” (McEvoy, 2001, p.311). This uncertain state very much coincides with the acceptance in Sufi tradition of the Unknown Reality whereby God in His Absolute Essence cannot be known. This Unknown Reality is where everything originates from and returns to, is the only truth that Sufi seekers seek, through knowing Him by His revealed Names and Attributes. This belief establishes Tawhid (Oneness) as the root of Sufism, paralleling the principle of Entanglement, which points to an interconnected universe where everything is part of an indivisible whole (Hopper, 2009), affirming the relational nature of humans.

Yet, although arriving at the same conclusion, the manner in how the notion of Oneness is achieved at is not the same in Traditional Sufism and Quantum Science. Coming from a porch where the accepted default state was duality, Quantum Science emerged as a solution to rectify the errors of the Cartesian-Newtonian reality by advocating the concept of non-duality.

Traditional Sufism, in contrast, like many Eastern belief system, remained integral in its intellectual thought and tradition thus maintains the belief of Oneness through Unicity.

Apart from the findings stated above, this study had also shed light into the incompleteness of current mainstream research paradigms based on the positivist or interpretivist view. What I had come to realise is that both paradigms ultimately address only either one of the realities within Quantum Science. While positivists focus solely on the external objective reality and does not acknowledge the inner subjective reality, interpretivists on the other hand, focus mainly on subjective truths, almost ignoring external physical reality. For example, prior to the bifurcation of knowledge, the origin of the nature of reality was the 'Lifeworld'. This worldview began to change with the advent of physics where focus was put on the physical. To remedy the neglect on the non-physical, Husserl in *The Crisis of European Sciences and Transcendental Phenomenology*, pushed for 'Lifeworld' to once again be the centre of focus through phenomenology (Moran, 2000). At a time where subjectivity was once again the emphasis in the non-physical sciences, phenomenology was embraced by social scientists and the humanities (Heelan, 2014). However, in his push for subjectivity, Husserl had left out the physical and methodological elements associated with 'physics' (1936/1970). While Heidegger attempted to offer a solution to the methodological void in phenomenology, he was unable to provide an explanation to the physical element of reality. This under-explained feature of the physical seems to be a common thread amongst many interpretivist views. For instance, Hegel in his *Philosophy of Right*, criticised the empirical approach to natural law believing that it is limited by its context and materials, therefore, cannot provide universally valid propositions in social and political dimensions (Duquette, 1997). And although referring to the 'Objective Spirit', Hegel in fact focuses on the relationship between the human and the subjectiveness of nature, not offering sufficient explanation for the physical external world.

On the other hand, Quantum Science acknowledges the importance of both forms of realities and provides adequate explanations for each, thus offering a way out to the 'Westphalian Settlement' between positivists and interpretivists. It offers a more holistic representation of reality where an approach exists supported with a methodology (Smith, 1995/2005). By not excluding the 'Lifeworld' and the physical world, the Quantum Science paradigm is a better fit to describe the Sufi nature of reality. In fact, there have already been scholars who have pushed for the adoption of Quantum Science as a more wholistic paradigm to explain the nature of reality as well as the relationship between science and religion such as the likes of K.V. Laurikainen. Laurikainen, a well-known Finnish physicist, had extensively studied one of the

founding fathers of Quantum Science's philosophy and ideas, Nobel Laureate Wolfgang Pauli. Agreeing with Pauli's views, Laurikainen believed that Pauli, with the assistance of Jung, had successfully formed an accurate ontology through Quantum Theory, one that Pauli refers to as 'unus mundus' - reality is both rational (objective) and irrational (subjective) meaning that it is merely two aspects of the one reality (Laurikainen, 1988). For example, the wave-particle duality is best used to describe the human. At the point of particle, the human resembles matter while the wave function describes the human psyche. Therefore, the psyche and the physical are in fact the same reality. Laurikainen pushed (and failed) to replace Cartesian dualism and Newton's materialistic philosophy with Pauli's view by combining science and religion in Finland in the early 80s, a time where religion was considered unscientific (Ni-iniluoto, 2013).

In Sufism, the 'particle' human relates to the nafs while the wave function is the ruh. At this juncture, it is worthwhile to mention that the notion of knowing God through understanding life and the universe has been proposed by Spinoza in his work 'The Ethics' in 1677. Spinoza asserted that one can only understand God through knowledge of psychology, philosophy and the natural sciences (Lloyd, 1996/2002). However, his understanding of 'Divinity' and its attached metaphysical premises conflict with the tenets of Sufism through what he calls the 'geometric method'. For example, one of his assertions is the inexistence of an afterlife (Nadler, 2006), which is one of the basic tenets of Sufism through mabda'-wa-maad, 'the Origin and the Return'. Moreover, the 'geometric method' disregards the special status of humans in the universe (Nadler, 2006), which is the opposite in Sufism. As explained at length in Chapters Four and Five, it is human whose soul contains His breath, creates meaning in the universe. It is for this reason as well as others previously identified that I had chosen to adopt the Quantum Science paradigm in my research as opposed to the other available philosophies and paradigms.

Ultimately, this research has managed to achieve the aims I had set out to accomplish by uncovering the position of mindfulness in Traditional Sufism – that it is unsuitable based on the contemporary understanding of mindfulness; and confirm that the principles of Quantum Science parallels Traditional Sufism. However, this by no means imply that Quantum Science is a sufficient ground for spirituality and religion, explaining why many founding fathers of Quantum Science as well as other contemporary quantum scientists seek out religion for a more complete clarification on the nature of human. Quantum Science merely acts as a door into Sufi spirituality, and other forms of spirituality, as it cannot explain the deeper existential questions of what it means to be human (Russell, 2004). This, according to Laurikainen, is the limits of science (Laurema, 2015).

6.3 IMPLICATIONS OF FINDINGS

What began as an exploration to understand the reasons behind the non-mention of mindfulness in Traditional Sufism led to the journey and discovery of a bigger, more crucial finding with significant implications both theoretically and in practical. However, given that this thesis is part of the study within the discipline of education, the implications of findings addressed within this section is focused on those relating to education arising from: understanding and being aware of the Classical Science axioms that has shaped many educational theories and the way education is delivered today; and the opportunities that Quantum Science offers.

6.3.1 Theoretical and Philosophical Implications

Education has been and continue to be one of humanity's greatest collective endeavour especially for young. The reason for this is because, according to Palmer, Zajonc & Scribner (2010), it is how priceless discoveries, insights, achievements and inventions are conveyed in which the human being in his or her full humanity, is at the centre of it all. Yet, as discussed at the very beginning of the thesis, with today's society in turmoil, where does education stand in this disarray?

In search for the answer to this question, Palmer et al. (2010) reflected upon the fundamentals of education, seeking to uncover what the heart of education is: "that which gives learning life and grants teaching its deepest satisfaction" (p.151). Nevertheless, what they had found was that majority of educational theories do not question the fundamental ontology of the human, instead directly offering 'answers' through pedagogies. For this reason, majority of these theories have, without realising, deep-rooted implicit assumptions of the Classical Science axioms that many educationists fought hard to overcome. This worldview is not only present in educational theories, but also has dominated academia as whole, and due to its trickle-down effect, has affected many educational systems and establishments of today (Goswami, 2016). What is apparent in academia is the influence of the atomistic notion of the self in combination with Darwin's "survival of the fittest", for example the view that "knowledge consists of

collecting atomistic facts about an atomistic reality, and these facts are delivered by individuals who know these facts to others who do not, in a system where learners compete with each other for scarce rewards” (Palmer et al., 2010, p.25). Focus is given to developing the ‘physical’ human and consequently, does not offer a means to heal the divide between the inner and outer human. This divide, according to Palmer et al. (2010), is the main problem of why education, especially higher education, is unable to solve the problems of today. Therefore, despite the plethora of curricular innovation in today’s educational landscape, it alone cannot bridge the division between the inner and outer human (Palmer et al, 2010).

True purpose of education, according to Kronman (2007), is to deeply explore the meaning of life. Yet, many reforms that occur, especially in higher education, is not deep enough in that it does not question the fundamentals of human and thus, do not re-establish the true purpose of education – to nurture our full humanity (Lewis, 2007). From the findings uncovered in this thesis, we know that for any solution to be enduring and meaningful to society, this fundamental nature of the human and reality must be addressed. Hence, for education to achieve its purpose of nurturing the human being in his or her full humanity, it then must be true to the human. It must reflect the subtle and complex nature of the human being, taking into account every human faculty, both the seen and unseen. It must address the dense but essential antinomies of the geometry of the human soul and the relational nature of the human to the metaphysical (Postman, 1995/1996; Palmer et al., 2010; Goswami, 2016). Unfortunately, many contemporary educational theories lack this holisticness due to the lack of the connection to the metaphysical nature of human including those that focuses on the importance of subjectivity (Postman, 1995/1996). For example, Howard Gardner (1983/2011) and his multiple intelligences theory where the whole person is one with multiple intelligences based on traditional psychometric views. These theories often: 1) do not question the philosophical underpinnings of the human, and 2) adopt the epiphenomenon view where the non-physical faculties emerge from the physical, therefore side-lining matters of the metaphysical which according to Postman (1995/1996), relates to that of the soul and the human connection to God.

Nevertheless, from the findings of this thesis, we now know that there are two existing parallel frameworks that addresses the issues and offer an alternative to the hegemonic image of reality: one based on science and the other rooted in spirituality as the basis of human existence. Both Quantum Science and Traditional Sufism show that human essence is anything but mechanical, with our consciousness existing as an irreducible whole. This irreducible whole points to the amalgamated physical and non-physical elements of human, inferring to the rela-

tional property of us humans. It is what makes us unique (Goswami, 2016). For education to reflect this uniqueness, it must take place within a particular context where education is made in the image of the whole human. Goswami (2016) refers to this as Quantum Education a post-post-modern philosophy on education based on a science with consciousness, while Palmer et al. (2010) calls this an integrative educational philosophy drawn from Quantum Science and spiritual and religious traditions (not to be confused with the usual integrative education). For the purpose of this thesis, this philosophy is referred to by Goswami's Quantum Education.

6.3.2 Practical Implications

Understanding assumptions about the nature of being and knowing is important as they underlie all education, which in turn influence pedagogy and the moral outcomes (ethics) (Palmer et al., 2010). Quantum Science reveals a worldview that is very much in line with old traditions, consequently validating them. This new scientific revelation provides legitimacy to education that reflects a worldview that once again brings back spirituality and consciousness into the forefront, at once bringing back the meaning of life and the true purpose of education – to create embodied social persons. Quantum Science opens the door to reach ontology and subsequently epistemology, pedagogy as well as provide another option for scientific methodology in education. Figure 14 offers an overview on the implications of adopting the Quantum Science worldview in education.

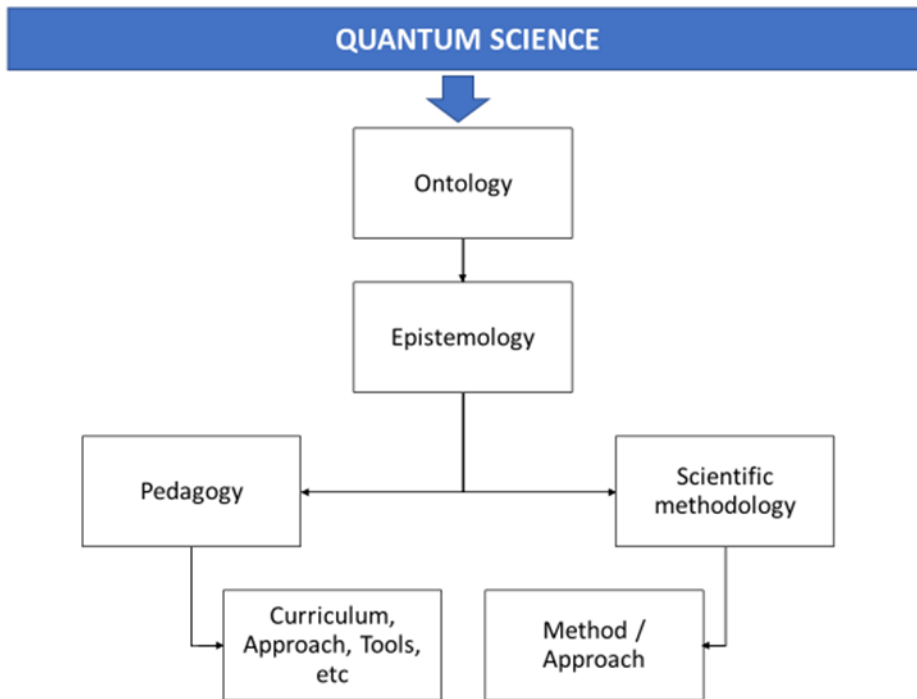


Figure 14. Implications of Quantum Education

In Quantum Science, humans are seen as: 1) whole; and 2) inseparable from nature – should there be no human, then there would also be no nature. As such, the nature of knowing must then reflect this ‘unicity’ or non-separation of the human from his or her environment as well as from his or her ‘whole’ self. Quantum Education places importance on the concept of community where it is more than a sociological phenomenon to include “an ontological reality, epistemological necessity, a pedagogical asset, and an ethical corrective” (Palmet et al., 2010, p.25). Essentially, it is an integrative philosophy of education that goes beyond pedagogy as it seeks to recast the current fragmentary and fragmenting assumptions underlying the dominant model of education to address the complexity and heterogeneity of the human. For instance, majority of the world’s primary school curriculum continue to place importance on the physical such as the enduring focus given to the 3Rs – reading, writing and arithmetic - as well as the ability to read as a criterion for progress and development set by the World Bank (Harber, 2014). Goswami (2016) explained that this notion was not created by chance but was done so in order to create a workforce ready for the factory line during industrialisation. Where then is the non-material dimension of the human, such as ethics, to be located within this Classical Science paradigm that continue to dominate mainstream education.

When the underlying ontological and epistemological view of reality and the human changes, so too would the teaching and learning as it becomes the aquifer of human wholeness (Palmer et al., 2010). The pedagogy suggested by Goswami (2016) and Palmer et al. (2010) based on Quantum Education is a form of wholistic education, emphasising subjective experience, as opposed to only objective outcomes, and favouring interconnected and collective curriculum to one that is atomistic and competitive. It not only places importance on the cognition but also to intuition, inspiration, insight, instinct & illumination, prioritising experiential learning – changing the way in how students are assessed, curriculum is developed, and teaching methods are approached. Unlike other current integrative education that focuses on learning theories such as those that have been proposed by Shoemaker (1989), Ross & Olsen, (1993) and Martin, (1995) (as cited in Walker, 1995), Quantum Education includes: curricula and pedagogy that pays attention to all (seen and unseen) dimensions of the human; gratification in interaction and allowing for creative conflict; honouring values of social justice, compassion and the search for truth yet goes beyond ‘values curriculum’; and comprehensive learning environment reflecting the holistic vision of humanity (Palmer et al., 2010).

Although Quantum Education is a relatively new and unchartered philosophy in education, there are existing educational frameworks that employ aspects of Quantum Education, if not at the worldview, but at least on the pedagogical level such as Finland. Finland’s educational reform in their comprehensive school curriculum considers cognitive, social and affective aims amongst others and moves away from standardisation, reflecting the uniqueness of humans. This move, according to Aho, Pitkänen & Sahlberg (2006), was an intentional act so as to move away from the Anglo-Saxon movement which asserts influence in majority of the education system today such as making teachers and schools accountable for learning results. With the adoption of the Quantum Science worldview, there is now a legitimate scientific evidence to support these actions. According to Palmer et al. (2010), many educational theories are merely an assortment of pedagogies with no philosophical underpinnings, such as in integrative education consisting of action research and service learning, making it open to criticism by those prefer academic orthodoxy. They went on to explain that by truly understanding the philosophical traditions at the heart of conventional pedagogy (that is based on Classical Science) can alternative frameworks be defensible within educational philosophy and thus become widely accepted. The example given was the for instance, the continuing division of discipline-bound academic departments in higher education even though it is widely understood that it is not the most effective way to gain knowledge of a complex world – which is

why interdisciplinary research have gained traction in the evolution of learning. Yet, “teaching continues to occur within disciplinary silos not because it is philosophically defensible but simply because that is how things have always been done” (Palmer et al., 2010, p.24).

Furthermore, Quantum Education provides a means to side-step the issues of contemporary mindfulness in education as the whole human cannot be addressed in a ‘mechanical’ or secular manner. Rising into prominence in the last thirty years due to the belief that, like its originator, contemporary mindfulness is able to offer relief to those suffering from stress, anxiety and depression, it has now developed into a secular context which according to Frisk (2012), is merely steps, devoid of meaning. Since the whole human is more than mechanics and cannot be addressed as a sum of his or her parts, perhaps the concern voiced out by traditional mindfulness proponents like Frisk, is that the solution offered by contemporary mindfulness practitioners is not adequate to address this whole human and thus, the benefits experienced are not sustainable. By changing the assumptions on reality and the human in education, mindfulness as an educational tool will also reflect this change in worldview and possibly, offer an anti-dote that is truly beneficial to the ailments of the 21st century society.

Additionally, as shown in Figure 14, Quantum Science also offers a new narrative for scientific methodology in educational research where subjectivity is given scientific legitimacy as explained earlier in this chapter as well as at length in Chapter Three. It opens the door to incorporate both forms of realities at once – the physical and the subjective – while providing a distinct approach for research.

Quantum Science in education is not a far-fetched recommendation. It not only offers a more holistic worldview of the nature of human and reality, but it also provides a coherent philosophical structure and supports research approaches that focuses on relationships, subjectivity and dynamic processes like phenomenology. In a time where the academic trend is to be ‘scientific’, Quantum Science provides the pathway to legitimise alternative pedagogies and theories in education, as had been encouraged by K.V. Laurikainen.

In addition, the recommendations to adopt the Quantum worldview by no means suggest that Classical Science tenets have no place in the world just as this thesis by no means suggest that that all educational framework imply that the human is mechanistic. Instead, the findings show that the original root of science – which current mainstream educational theories and academic discipline is based upon – is founded upon a scientific methodology that is rooted in classical science which carries with it the notions of matter and mechanism and that the implications

of Classical Science should remain as special cases and not be turned into normative standards. Perhaps with this new lens of Quantum Science, education can become what it once was, prior to the bifurcation of knowledge and methodological atheism. As Alain de Lille noted, education intended to produce “the good and perfect man, all of whose parts were so refined and in harmony with one another that he could make the spiritual journey to God” (as cited in Palmer et al., 2010, p.7).

6.4 LIMITATIONS OF THESIS

While the findings in this thesis provide invaluable knowledge, this research is not without its limitations which are addressed as follows:

- i. The first limitation relates to the context of the origin of mindfulness itself. According to Monteiro et al. (2016), Buddhism has many variants and to ‘lump’ all Traditional Mindfulness approach into one can be problematic. However, this re-search did not intend to imply that there is only one type of Buddhism by using the term Traditional Mindfulness. Instead, it denotes the orientation towards the main teachings of the Buddha, using the term traditional in contrast to contemporary.
- ii. Secondly, contemporary mindfulness is multi-faceted in their interpretations and perspectives, evolving from the original Buddhist concept. There is a risk in not reflecting these complexities when comparing contemporary mindfulness to another concept. However, as this thesis addresses the fundamental assumptions governing contemporary mindfulness, instead of attempting to define it, this re-search bypasses this limitation.
- iii. Third, due to time and space constraints, I was unable to discuss the wide array of philosophical and psychological concepts in the non-Eastern view. However, to mitigate this limitation, I ensured that the dominant opinions within the non-Eastern view was covered.
- iv. Fourth, the subject matter of this thesis, particularly by bringing Quantum Science and Sufi spirituality into the mainstream foray, is new, uncharted territory especially in

the field of education. There is not much literature that addresses this interdisciplinary topic and thus, not many “evidences” to compare with in the social sciences and humanities. Yet, given the fundamental nature of the topics investigated, it is imperative to continue down this road-less-taken.

- v. Fifth, Sufism is a deep and complex science. Not being able to experience these stations as expounded by these Sufi seekers could mean that my analysis and interpretation of the Sufi texts is shallow, possibly not doing it due justice. This concern was decreased with the corroboration of my results with a practising Sufi.
- vi. Lastly, the limitation of this thesis includes the data itself where I was only able to acquire information and verification from one Sufi with a Quantum Science background. It would have been beneficial to be able to find another source with the same background to further strengthen my findings. However, as I had explained in Chapter Three, sample size is a non-issue in a qualitative study as it does not decrease the trustworthiness of the data.

7 REFLECTION AND FUTURE RESEARCH

“So, it is that science today, by virtue of the method which is its hallmark, is left with a fragmented world of things which it must then try to put together.” (Bortoft, 1996, p.17)

The interdisciplinary topic that I had chosen to study was one of the most difficult things I have had to do academically due to its complexity and depth. The findings, I had realised, went beyond the research questions to uncover deep-rooted traditions that although not necessarily accurate, still holds power in today’s discourse, both generally and in the academic circle. This supremacy demanded courage, especially in the reporting of findings which I had discussed in Chapter Six, out of fear of backlash.

By unpacking the implicit assumptions influencing Contemporary Mindfulness with regards to the fundamental aspects of the nature of reality and nature of human, I was able to understand how the concept of mind became what it is today in contemporary mindfulness – as an epiphenomenon of the brain – resulting from contemporary mindfulness’ Classical Science-based framework. These axioms placed importance on the physical, eventually influencing how the human is seen not just within the contemporary mindfulness field but also in majority of disciplines of the social sciences and humanities. This made me realise that the relationship between science and the humanities is closer than one often sees, and that we (social scientists and humanities) no longer have to take a defensive position by trying to distance ourselves to the natural sciences. On the contrary, through Quantum Science, constructivism and interpretivism is given scientific legitimacy. In fact, a century before Quantum Science was founded, Goethe had already put forth an epistemology that focuses on process and relationships that allows for intuitive perception of direct knowledge of the world, recognising the observer as a participant like the principle of observer effect, calling it ‘conscious-process-participation.’ (Wahl, 2005).

Additionally, Quantum Science declare its inability to provide all the answers to everything. Bruno Guiderdoni explains that despite the plethora of scientific discoveries, humans realise that we require more knowledge than science is able to give us especially in matters of existential reality (2001). Instead, its principles act as a stepping stone into the realm of spirituality through the subject of consciousness. This means that science and theology no longer need be

portrayed as being in conflict and that in fact, Quantum Science necessitates further consideration into this relationship.

This thesis also had demonstrated that there are different assumptions to reality and that for those who subscribe to a different thought tradition where metaphysical is the foundation of reality, now have a pathway. As Wallace (2009) indicated, by incorporating other forms of inquiry such as through spirituality and religion, perhaps a more comprehensive revolution of the mind sciences can happen. For example, I had come to the realisation that the Sufi tradition does not bear the problems of contemporary philosophy of mind due to the Sufi conception of reality and human nature - Sufism does not begin from the inference of a gap which is then bridged over.

However, the full implications of adopting these alternative frameworks is something that goes beyond the work of a single scholar - a project that would need to be addressed by various disciplines and sciences. However, as described in this thesis, by first recognising that the current problems in contemporary non-Eastern philosophy is rooted in a particular view of reality based on Classical Science and that this 'taken-for-granted' background resulting from historical circumstances is in fact not a universal given, only then we are able to truly move forward with addressing issues related to that of the human.

Given the issues of today, I think it is time for the academic disciplines especially those that are more directly concerned with the human to once again start questioning the fundamentals by critically looking at the conceptual framework and assumptions within which contemporary thought operates. It is my hope that this thesis can be the starting point for future research in the attempt to further explore a more holistic and coherent framework on what it is to be human, or simply, act as an offering for conversation towards this end.

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Figure 2. Hassan, I. S. (2016). The CETOE Philosophical Model. In *Hermeneutic Inquiry into Meanings of Business Decision-Making of Micro Entrepreneurs' Lived Experience*. Unpublished PhD thesis, Universiti Putra Malaysia, Serdang, Malaysia.

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Appendix 1 – Table of Lists of Data derived from Literature

NO.	TITLE	AUTHOR	TYPE	PRIMARY	SECONDARY	MINDFULNESS	QUANTUM SCIENCE	CLASSICAL SCIENCE	SUFISM	MIND	CONSCIOUSNESS	NATURE OF REALITY	HUMAN	SPIRITUALITY	SCIENTIFIC INQUIRY
1	From Science to God: A Physicist's Journey into the Mystery of Consciousness	Russell, Peter	Book	X			X			X	X	X	X		
2	The Clockwork Universe: Isaac Newton, the Royal Society and the Modern World	Dolnick, Edward	E-Book	X				X				X	X		
3	The Effect of Mind upon Brain	Stapp, Henry P.	Journal	X			X	X		X	X		X	X	
4	Quantum Questions: Mystical Writings of the World's Greatest Physicists	Wilber, Ken	E-Book	X			X	X		X	X	X	X	X	
5	Setting Science Free from Materialism	Sheldrake, Rupert	Journal	X			X	X				X	X		
6	In Search of the Sacred: A Conversation with Syed Hossein Nasr on His Life and Thought	Nasr, Syed Hossein & Jahambegloo, Ramin	E-Book	X					X			X	X	X	
7	Does the Universe Have a Purpose	Guiderdoni, Bruno	Article	X			X	X				X		X	X
8	Mindful Universe: Quantum Mechanics and the Participating Observer	Stapp, Henry P.	E-Book	X			X	X		X	X	X	X	X	X
9	On the Concept of The Human Person	Kidd, Sunny D.	Journal	X											
10	Why We Need Quantum Physics for Cognitive Neuroscience	Tarlaci, Sultan	Journal	X			X	X		X		X	X		
11	The Measurement Problem in Quantum Mechanics: Well, Where's the Problem?	Tarlaci, Sultan	Journal	X			X	X				X			X
12	The Unity of Being in Liu Chih's "Islamic Neoconfucianism"	Murata, Sachiko	Online Article	X					X		X	X	X	X	

NO.	TITLE	AUTHOR	TYPE	PRIMARY	SECONDARY	MINDFULNESS	QUANTUM SCIENCE	CLASSICAL SCIENCE	SUFISM	MIND	CONSCIOUSNESS	NATURE OF REALITY	HUMAN	SPIRITUALITY	SCIENTIFIC INQUIRY
13	Ibn 'Arabi: The Structure of the City of Man Whose King is the Soul, The Deputy of God	Ibn Arabi interpreted by Shayk Tosun Bayrak al-Jerrahi al-Halveti	Online Article	X					X		X	X	X	X	
14	The Three Dimensions of Sufism	Schuon, Frithjof	Journal	X					X			X	X	X	
15	Revival of Religious Learnings	Al-Ghazzali	E-Book	X											
16	Science, Consciousness -and Dare I Say It - God	Russel, Peter	Magazine Article	X			X	X			X	X	X	X	X
17	The In-Between: Reflections of The Soul in the Teachings of Ibh 'Arabi	Chittick, William C.	Journal	X					X		X	X	X	X	
18	Manifesto for a Post-Material Science	Beauregard, Mario et. Al	Online Article	X			X	X			X	X			X
19	The New Physics and Cosmology: Dialogues with the Dalai Lama	Edited by Zajonc, Arthur	E-Book	X			X	X			X	X	X		
20	Biology of Belief: Unleashing the Power of Consciousness, Matter & Miracles	Lypton, Bruce	Book	X			X	X		X	X	X	X		X
21	History of the Soul	Goetz, Stewart	Book	X							X	X	X		
22	Quantum Mind and Social Science: Unifying Physical and Social Ontology	Wendt, Alexander	Book	X		X	X	X		X	X	X	X		X
23	The Retrieval of Contemplation: Mindfulness, Meditation, and Education	Comstock, Patrick Warren	Journal	X		X				X					
24	The Way Things Are : Conversations with Huston Smith on the Spiritual Life	Smith, Huston & Cousineau, Phil	E-Book	X			X	X		X	X	X	X	X	
25	Towards a New Science of Consciousness	O'Leary, Brian	Article	X			X	X			X	X		X	X
26	Quantum Enigma: Physics Encounters Consciousness	Rosenblum, B. and Kuttner, F.	Book	X			X	X		X	X				X

NO.	TITLE	AUTHOR	TYPE	PRIMARY	SECONDARY	MINDFULNESS	QUANTUM SCIENCE	CLASSICAL SCIENCE	SUFISM	MIND	CONSCIOUSNESS	NATURE OF REALITY	HUMAN	SPIRITUALITY	SCIENTIFIC INQUIRY
27	The Conscious Universe	Radin, Dean	Book	X			X	X		X	X	X	X		
28	Conscious Acts of Creation: The emergence of a new physics.	Tiller, W. A., Dibble, W. E., Kohane, M. J.	Book	X			X	X		X	X	X			X
29	https://thecorner.wordpress.com/2012/01/19/william-chittick-a-traditional-approach-to-learning/	Chittick, William C.	Video	X					X	X	X	X	X	X	
30	The Thoughtful Guide to Sufism	Haeri, Syakh Fadhllala	Book	X					X			X	X	X	
31	What is Sufism?	Lings, Martin	Book	X					X	X	X	X	X	X	
32	Lecture Slide: How Removal of Scripture Brought about the Mechanistic Human without God	Salleh, Arfah	Lecture Slides	X			X	X				X	X		X
33	Way of the Explorer	Mitchell, Edgar	E-Book	X			X	X			X	X		X	
34	Quantum theory: A very short introduction	Polkinghorne, John	Book	X			X	X				X			X
35	Quantum Reality, the Importance of Consciousness in the Universe, the Discovery of a Non-Empirical Realm of Physical Reality, and the Convergence with Ancient Traditions of Indian and Western Philosophy	Lothar Schäfer & Sisir Roy	Journal	X			X	X			X	X		X	
36	Self Aware Universe	Goswami, Amit	Book	X			X	X		X	X	X			
37	Holistic Islam: Sufism, Transformation, & the Challenge of Our Time	Helminski, Kabir	Book	X					X				X		
38	Vision of Islam	Murata, Sachiko & Chittick, William C.	Book	X					X			X	X	X	
39	Mundus Imaginalis	Corbin, Henry	Paper Colloquium	X							X	X	X	X	
40	Form & Substance	Schuon, Frithjof	Book	X					X		X	X	X	X	
41	Lawa'ih: A Treatise on Sufism	Jami, Nuruddin AbdurRahman	Book	X					X		X	X	X	X	

NO.	TITLE	AUTHOR	TYPE	PRIMARY	SECONDARY	MINDFULNESS	QUANTUM SCIENCE	CLASSICAL SCIENCE	SUFISM	MIND	CONSCIOUSNESS	NATURE OF REALITY	HUMAN	SPIRITUALITY	SCIENTIFIC INQUIRY
42	Mind reading and mindfulness deficits in patients with major depression disorder	Nejati, Zabihzadeh, Maleki & Tehranchi	Journal	X		X				X			X		
43	Merton & Sufism: The Untold Story, A Complete Compendium	Baker, Rob & Henry, Gray	Book	X					X	X	X	X	X	X	
44	The Passion of the Western Mind: Understanding the Ideas That Have Shaped Our World View	Tarnas, Richard	Book	X			X	X		X			X		X
45	The Metaphysical Foundations of Modern Science	Burt, E. A.	Book	X			X	X		X		X	X		X
46	Effects of Mindfulness Meditation on Conscious and Non-Conscious Components of the Mind	Anastasia Fabbro, Cristiano Crescentini, Alessio Matiz, Andrea Clarici and Franco Fabbro	Journal	X		X				X			X		
47	Investigating Mindfulness, Borderline Personality Traits, and Well-Being in a Nonclinical Population	Mabel Yu, Mitchell Clark	Journal	X		X				X					
48	Mindfulness-Based Interventions in Context: Past, present, and future	Kabat-Zinn, Jon	Journal	X		X									
49	The clinical use of mindfulness meditation for the self-regulation of chronic pain	Kabat-Zinn, Jon	Journal	X		X									
50	Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders.	Kabat-Zinn, Jon	Journal	X		X									
51	Mindfulness-Based Cognitive Therapy for Depression: A new approach to preventing re-lapse	Segal, Z. V., Williams, J. M. G., & Teasdale, J. D	Book	X		X									

NO.	TITLE	AUTHOR	TYPE	PRIMARY	SECONDARY	MINDFULNESS	QUANTUM SCIENCE	CLASSICAL SCIENCE	SUFISM	MIND	CONSCIOUSNESS	NATURE OF REALITY	HUMAN	SPIRITUALITY	SCIENTIFIC INQUIRY
52	Mindfulness-Based Cognitive Therapy: A promising new approach to preventing depressive relapse	Williams, J. M. & Kuyken, W	Journal	X		X									
53	Counter Clockwise: Mindful health and the power of possibility	Langer, E.	Book	X		X				X	X				
54	The Construct of Mindfulness	Langer, E. J. & Moldoveanu, M.	Journal	X		X				X	X				
55	Traditional and Contemporary Mindfulness: Finding the middle path in the tangle of concerns.	Monteiro, L. M., Musten, R. M & Compson, J.	Journal	X		X				X		X	X		
56	Measuring Mindfulness.	Baer, R. A	Journal	X		X				X					
57	Addressing Fundamental Questions About Mindfulness.	Brown, K. W., Ryan, R. M., & Creswell, J. D.	Journal	X		X				X			X		
58	Mindfulness in Education at The Intersection of Science, Religion, and Healing.	Ergas, O.	Journal	X		X				X			X		
59	Educating the Wandering Mind: Pedagogical mechanisms of mindfulness for a curricular blind spot	Ergas, O.	Journal	X		X				X			X		
60	Schooled in Our Own Minds: Mind-wandering and mindfulness in the makings of the curriculum	Ergas, O.	Journal	X		X				X			X		
61	Self-Reflexivity. The ultimate end of knowledge	Popoveniuc, B.	Journal	X			X								X
62	The Structure of Scientific Revolutions.	Kuhn, T.	Book	X			X	X				X			X
63	Question Reality! Science, philosophy, and the search for meaning	Gleiser, M.	Course Notes	X			X	X		X	X	X	X		X
64	Niels Bohr's Interpretation and the Copenhagen Interpretation - Are the Two Incompatible?	Gomatam, R.	Journal	X			X	X		X	X	X	X		X
65	Mind and Matter	Schrödinger, E.	Journal	X			X	X		X	X	X	X	X	
66	Nature and the Greeks and Science and Humanism	Schrödinger, E.	Journal	X			X	X		X	X	X	X	X	
67	What's Wrong with this Pillow?	Mermin, D.	Article	X			X	X		X	X	X			

NO.	TITLE	AUTHOR	TYPE	PRIMARY	SECONDARY	MINDFULNESS	QUANTUM SCIENCE	CLASSICAL SCIENCE	SUFISM	MIND	CONSCIOUSNESS	NATURE OF REALITY	HUMAN	SPIRITUALITY	SCIENTIFIC INQUIRY
68	Minding Matter	Frank, A.	Article	X			X	X		X	X	X	X	X	
69	The Matter Myth: Dramatic discoveries that challenge our understanding of physical reality.	Davies, P. & Gribbin, J.	Book	X			X	X		X	X	X	X	X	X
70	Physics and Philosophy: The revolution in modern Science.	Heisenberg, W.	Book	X			X	X		X	X	X	X	X	X
71	The Crisis of European Sciences and Transcendental Phenomenology: An Introduction to Phenomenological Philosophy	Husserl, E.	Book	X				X		X	X	X	X		X
72	Rules and Representations	Chomsky, N.	Book	X				X		X		X	X		
73	Language and Mind	Chomsky, N.	Book	X				X		X		X	X		
74	The Quran			X					X	X	X	X	X	X	
75	Islamic Aesthetics	Nasr, Syed Hossein	Book	X					X			X		X	
76	The Passion of al-Hallaj, Mystic and Martyr of Islam.	Massignon, H.	Book	X					X		X	X	X	X	
77	Getting Drunk with Abū Yazīd or Staying Sober with Junayd: The creation of a popular typology of Sufism	Mojaddedi, J. A.	Article	X					X			X	X	X	
78	Beyond Dogma: Rumi's Teachings on Friendship with God and Early Sufi Theories	Mojaddedi, J. A.	Book	X					X		X	X	X	X	
79	The Tao of Islam: A sourcebook on gender relationships in Islamic thought.	Murata, S.	Book	X					X	X	X		X	X	
80	Merton's Sufi Lectures to Cistercian Novices,	Dieker, B	Book	X					X		X	X	X	X	
81	Nature of Man in Islam	Dogan, Recep	Journal	X					X	X	X	X	X	X	
82	Four Inclinations in Human Nature: Evaluated in light of al-Ghazzali's concept of the heart	Kemahli, H. P	Journal	X					X	X	X	X	X	X	
83	The Metaphysical Foundation of Modern Science	Burt, E. A.	Book	X			X	X		X	X	X	X	X	
84	Buddhism and Science: Confrontation and collaboration	Wallace, B. A	Presentation	X		X	X	X		X	X	X	X	X	

NO.	TITLE	AUTHOR	TYPE	PRIMARY	SECONDARY	MINDFULNESS	QUANTUM SCIENCE	CLASSICAL SCIENCE	SUFISM	MIND	CONSCIOUSNESS	NATURE OF REALITY	HUMAN	SPIRITUALITY	SCIENTIFIC INQUIRY
85	The Turning Point: science, society, and the rising culture	Capra, F.	Book	X			X	X		X	X	X	X		
86	Physics Envy: Psychologists' perceptions of psychology and agreement about core concepts.	Howell, J. L., Collisson, B. & King, K. M	Journal	X			X	X		X	X		X		X
87	Supervenience and Mind: Selected Philosophical Essays	Kim, Jaegwon	Journal	X						X			X		
88	Does the Problem of Mental Causation Generalize?	Kim, Jaegwon	Journal	X						X			X		
89	On the Psycho-Physical Identity Theory	Kim, Jaegwon	Journal	X						X			X		
90	The Case Against B. F. Skinner 45 years Later: An encounter with N. Chomsky.	Virués-Ortega, J.	Journal	X						X		X	X		
91	Mind, Language and Reality: Philosophical Papers Volume 2.	Putnam, H.	Book	X						X		X	X		
92	Armstrong's Causal Theory of Mind.	Rosenthal, D. M	Book	X						X			X		
93	The Mind/Brain Identity Theory	Smart, J.C.C	Encyclopedia	X						X			X		
94	Functionalism and Type Physicalism	Tye, M.	Journal	X						X			X		
95	The Embodied Mind: Cognitive science and human experience	Varela, F. J., Thompson, E. & Rosch, E.	Book	X						X	X		X		
96	The Evolution of Consciousness	Velmans, M.	Journal	X						X	X	X	X		
97	The Causal Closure of the Physical and Naturalism	Papineau, D.	Book	X						X	X		X		
98	The Rise of Physicalism	Papineau, D.	Book	X						X	X		X		
99	Implicit theories of intelligence, creativity, and wisdom	Sternberg, R. J.	Journal	X		X				X			X		
100	I.D.: The Quest for Meaning in the 21st Century	Greenfield, S.	Book	X						X	X	X	X		
101	What is Mental about Mental Disorder	Brülde, B., & Radovic, F	Journal	X						X	X	X	X		
102	Mind From Matter? An essay on evolutionary epistemology	Delbrück, M.	Book	X			X	X		X	X	X	X	X	
103	The Degrees of the Station of No-Station: Regarding the end of the journey.	Benaïssa, O.	Paper	X					X		X		X	X	
104	The Immutable Entities and Time.	Hämeen-Anttila, J.	Paper	X			X		X		X			X	

NO.	TITLE	AUTHOR	TYPE	PRIMARY	SECONDARY	MINDFULNESS	QUANTUM SCIENCE	CLASSICAL SCIENCE	SUFISM	MIND	CONSCIOUSNESS	NATURE OF REALITY	HUMAN	SPIRITUALITY	SCIENTIFIC INQUIRY
105	Consciousness, Quantum Physics, and Hermeneutical Phenomenology	Heelan, P. A	Journal	X			X				X	X		X	X
106	Hermeneutical Phenomenology and the Philosophy of Science	Heelan, P. A	Journal	X			X				X	X		X	X
107	Beyond the Atom: The philosophical thought of Wolfgang Pauli	Laurikainen, K. V	Book	X			X	X		X	X	X	X	X	X
108	The Emerging Importance of Consciousness in Physics: Hopeful Signs of a Convergence of Thinking in Science and Spirituality	Hopper, L. Wesley	Presentation		X		X	X			X	X	X	X	
109	Philosophic Underpinnings of Qualitative Research	Sahinkarakas, Sehnaz	Presentation		X										X
110	The Heart has a Brain	mindfulmuscle.com	Online Article		X					X					
111	The Perfectibility of Human Nature in Eastern and Western Thought	Coward, Harold	E-Book		X				X	X	X	X	X	X	
112	Methodology for the Study of Human Nature In The Works of Abu Hamid Al-Ghazzali	Plojovic, Dzamal	Thesis		X				X	X	X	X	X		
113	The Book of Knowledge: Being a Translation with Notes of Kitab al-'Ilm of Al-Ghazzali's Ihya' 'Ulum al-Din	Faris, Nabih Amin	E-Book		X				X			X	X		
114	Know Yourself, According to the Quran and Sunnah: Ibn Arabi's View	Kakaie, Ghasem	Journal		X				X	X	X	X	X	X	
115	Problems with Consciousness	Tuominen, Miira	Journal		X		X	X			X	X	X		
116	The Concept of the Perfect Man in the Thought of Ibn 'Arabi and Muhammad Iqbal: A Comparative Study	Arnel, Iskandar	Thesis		X				X				X	X	
117	Image of God: A Note on the Scriptural Anthropology	Umar, Muhammad Suheyl	Journal		X				X		X	X		X	
118	The Roots of Consciousness	Mishlove, Jeffrey	E-Book		X				X		X	X	X	X	
119	Self-Awareness in Islamic Philosophy: Avicenna and Beyond	Kaukua, Jari	Book		X				X	X			X		
120	Living Without Why : An Exploration of Personal Muslim Authenticity	Trevathan, Stephen D.	Thesis		X				X			X	X	X	
121	The Limits of Thought: Discussions between J. Krishnamurti and David Bohm	Bierbrauer, Frank	E-Book		X		X	X		X	X	X			X

NO.	TITLE	AUTHOR	TYPE	PRIMARY	SECONDARY	MINDFULNESS	QUANTUM SCIENCE	CLASSICAL SCIENCE	SUFISM	MIND	CONSCIOUSNESS	NATURE OF REALITY	HUMAN	SPIRITUALITY	SCIENTIFIC INQUIRY
122	Physicists-Say-Consciousness-Should-Be-Considered-A-State-Of-Matter-The-Non-Physical-Is-Real/	Walia, Arjun	Online Article		X		X	X			X			X	
123	The Enlightenment Quran	Elmarsafy, Ziad	Book		X				X						
124	Quantum Metaphysics: The Role of Human Beings within the Paradigms of Classical and Quantum Physics	Kallio-Tamminen, Tarja	PhD Dissertation		X		X	X		X	X	X	X	X	X
125	The Quantum God: An Investigation of the Image of God from Quantum Science	Richardson, Meaghean	Masters Thesis		X		X	X		X	X	X	X	X	
126	Einstein's Greatest Mistake	Bodanis, David	Book		X		X	X				X			X
127	The Many Interpretatios of Quantum Mechanics	Collins, Graham P.	Online Article		X		X	X							X
128	An Approach to Ghazali's Conversion	Nakamura, Kojiro	Paper		X				X	X	X	X	X	X	
129	A Map of the Divine Subtle Faculty: The concept of the heart in the works of Ghazali, Said Nursi, and Fethullah Gulen	Seker, Mehmet Yavuz	Book		X				X	X	X	X	X	X	
130	Abd Al-Karim Al-Jili: Tawhid, Transcendence and Imminence	Polito, Nicholas Lo	Thesis		X				X		X	X	X	X	
131	https://creation.com/consciousness-not-emergent-property	Price, Paul	Online Article		X		X	X			X	X			
132	Self in Relation to the Concept of God in Risale-i Nur	Kuru, Omar	Thesis		X						X		X	X	
133	Nature of Man in Islam	Dogan, Recep	Journal		X					X	X	X	X	X	
134	Theory of Mind	Goldman, Alvin I.	Journal		X	X				X					
135	The Human Intellect, Divine Revelation and Knowledge Based on Al-Qaradowi's Work: al-'aql wa al-'ilm fi al-Qur'an al-karim	Hassan,Kamal	Journal		X				X	X	X	X	X		
136	The Homo Imago Dei Motif and The Anthropocentric Metaphysics of Ibn 'Arabi in the In-sha' Al-Dawa'ir,	Takeshita, M.	PhD Dissertation		X				X			X	X	X	
137	When Mindfulness Meets the Classroom	Davis, L.C	Article		X	X									
138	Just Breathe: Mindfulness may help freshman stress less and smile more.	Indivero, V.M	Article		X	X									

NO.	TITLE	AUTHOR	TYPE	PRIMARY	SECONDARY	MINDFULNESS	QUANTUM SCIENCE	CLASSICAL SCIENCE	SUFISM	MIND	CONSCIOUSNESS	NATURE OF REALITY	HUMAN	SPIRITUALITY	SCIENTIFIC INQUIRY
139	Science Shows Meditation Benefits Children's Brains And Behavior	Walton, Alice G.	Article		X	X				X					
140	The Four Noble Truths	BBC	Article		X	X									
141	The Four Noble Truths: Suffering and salvation in Buddhism	Wayne, L.	Article		X	X									
142	The Meaning of Nirvana in Buddhism Explained: Reaching the end of greed, hatred, and delusion	Keown, D.	Article		X	X									
143	The Mindfulness of the Buddha	Moffitt, P.	Article		X	X									
144	Beyond McMindfulness	Purser, R. & Loy, D.	Article		X	X				X	X		X		
145	Understanding the Concept of Islamic Sufism	Bilqies, S.	Journal		X				X	X	X	X	X	X	
146	The Study of Sufism: Towards a methodology	Brewster, D. P	Journal		X				X	X	X	X	X	X	
147	Divine Intoxication & Rumi	Vaughan-Lee, L.	Article		X				X	X	X	X	X	X	
148	Mulk, Malakut and Jabarut	Simalisam	Website		X				X			X			
149	Thomas Hobbes	Duncan, S.	Encyclopedia		X					X			X		
150	Behaviorist Approach	Mcleod, S.	Article		X					X	X		X		
151	Behaviorism	Graham, G.	Encyclopedia		X					X			X		
152	Husserl and the Crisis of European Science	Moran, D.	Book		X			X		X		X			
153	Laurikainen 1916 – 1997	Laurema, S.	Book		X		X	X		X	X		X	X	X

Appendix 2 – Dates and Length of Personal Conversations

NO.	DATES	DURATION (approx.)
1	April 5, 2018	120 minutes
2	April 19, 2018	180 minutes
3	April 25, 2018	180 minutes
4	July 31, 2018	90 minutes
5	September 8, 2018	120 minutes
6	October 18, 2018	90 minutes
7	October 20, 2018	90 minutes
8	November 3, 2018	150 minutes
9	January 31, 2019	120 minutes
TOTAL		19 hours

Appendix 3 – Sample Data Analysis & Interpretation Matrix

Microsoft Excel interface showing a data analysis matrix. The ribbon includes File, Home, Insert, Page Layout, Formulas, Data, Review, View, and Help. The active cell is D19, containing the text "p. 47 - Matter is not made of matter (Hans-Peter Dürr)".

No.	Theme	Author	Vendt	Russell	O'Leary	Bodanis	Arjun Valia	Stapp, 2005
1	Issue/Topic: Quantum Paradigm							
2	What is Quantum Mechanics	p.58 - QM tests QT through "experimental metaphysics". P.60 - We have no basis of saying [sub-atomic particles] exist until we measure them and so they are bot context independent. Prior to measurement, what exists at the quantum level is wave function which does not have hardness or mass.		p. 47 - Matter is not made of matter (Hans-Peter Dürr).	p.28 - Matter is not what we think it is - "The physical universe is made up of massless electric charges immersed in a vast, energetic all-pervasive electromagnetic field. It is the interaction of those charges with the electromagnetic field that creates the appearance of mass."	p.232 - In 1950s and 1960s, researchers developed ways to test Einstein's belief that quantum mechanics was just a temporary step to a more certain future theory, one that would dispose of the randomness he loathed and provide a more logical, orderly explanation of how the universe functions. When those tests were carried out in the 1980s, however, they confirmed that Heisenberg, Bohr and the others had been right: the uncertainty principle is rock solid. The world does not operate in the determinist way Einstein wanted to believe it did. The only thing certain, at least at the subatomic and atomic levels, is a certain degree if		p.9 - the physically described world is out of bits of matter, as matter was in the nineteenth century, but out of tendencies - potentialities - for cert whole actual events to occur. Each has both a psychologically describe which is essentially an increment in l and also a physically described aspect an action that abruptly changes the mathematically described set of pot one that is concordant with the incre
3	What is Classical Physics/Science	p.5 - CP implies a materialist ontology I which reality is ultimately made up of just matter and energy (mindless matter in motion).				p.206 -Einstein described what science is and what he thought was creativity: "We start with the reality around us, the empirical world where we experience ordinary sensations. In a burst of imagination, thinkers can ascend to that foundation to loftier general principles. Then, in order to be sure that those principles		

Ready | Science | QP | QP in SS | Sufism | mindfulness - issue 1 | mindfulness - issue 2 | mindfulness ... | 60%

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	A	B	H	I	J	K	L
1							
2		Issue:					
3		Quantum Paradigm in Social Science					
4							
5							
6	No.	Theme	Goswami	Chittick	Stapp, 2005	Hopper	Grier
7	1	What is quantum paradigm in SS	p. 6 - We can't be sure if all things are made of atoms - it's an assumption. Suppose all things, including atoms, are made of consciousness instead! Goswami builds a case for the primacy of consciousness more extensively than many other writers. In his view we have a brainmind that has both quantum mechanical and classical features. The quantum features explain such non-deterministic abilities as conscious choice and creativity. Without these abilities we would be limited by a deterministic brain to only those choices that emerged from what came before. But we know from experience that humans are quite creative, and quantum physics explains how a completely new idea can emerge.	Significance and role of learning depends on our worldview.	p. 2 - quantum theory itself is intrinsically psychophysical: as designed by its founders, and as used in actual scientific practice, it is ultimately a theory about the structure of our experience that is erected upon a radical mathematical generalization of the laws of classical physics.	p. 21 - Biocentrism Principles: 1. What we perceive as reality is a process that involves our consciousness...space and time are not absolute realities but rather tools of the human and animal mind. 2. Our external and internal perceptions are inextricably intertwined. They are different sides of the same coin and cannot be divorced from one another. 3. The behavior of subatomic particles - indeed all particles and objects - are inextricably linked to the presence of an observer... 4. Without consciousness "matter" dwells in an undetermined state of probability. Any universe that could have preceded consciousness only existed in a probability state. 5. The structure of the universe is explainable only through biocentrism. The universe is fine-tuned for life, which makes perfect sense as life creates the universe, not the other way around... 6. Time does not have a real existence outside of animal sense perception. It is the process by which we perceive changes in the universe. 7. Space, like time, is not an object or a thing. Space is another form of our animal understanding and does not have an independent reality. We carry space and time around with us like turtles with shells. Thus, there is no absolute self-existing matrix in which physical events occur independent of life.	p. 12 - ithe self-reflexive aspects of con that play such a great role in artistic ex in the scientific debates on conscious before, this feature has close ties to th mathematical and scientific thought d century; to physical uncertainty and m undecidability, to Heisenberg's law an Both have something to do with the fa know the world from the inside and ar physical selves and in our thoughts an the world that we would like to gain kn cannot completely disregard the impa observations and measurements on th observations and measurements.

Science | QP | **QP in SS** | Sufism | mindfulness - issue 1 | mindfulness - issue 2 | mindfulness ...

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No.	Theme	Chittick	O'Leary	Haeri	Lings
7	What is the epistemology of sufism (method of knowing)	<p>in pursuit of knowledge:</p> <ol style="list-style-type: none"> 1. Understanding who we are and what we should be doing about it 2. Practice is actually doing what we should be doing (observing propriety and following the way: syariah and tariqat) 3. Never reach a point to where we say we have learnt everything that we need to know. "My Lord increase me in knowledge." Prophet saw 		<p>p.24 - The Sufis addressed themselves to msn'd inner problems and therefore developed the science of the self.</p> <p>P.25 - It is not an objective scienceto be studied by orientalist and analysed and disseminated by linguists. There is a big difference between merely collecting recipes and actually cooking and eating it.</p> <p>p.33 - Belief generally begins with a possibility or a hypothesis. It can also be simply blind faith. Thee omes the stage of experimentation. Foe example, in believig that death is not the end of life, one needs to assume that the story of life cannot be entirely physical. So an aspect of belief is that there is something else behind our physical existence. This very simple and ordiary starting point can become subjectively confirmed when t is personally experienced that the origin and source of life is beyond time and space and that the body is a vehivle to reach higher consciousness. Belief is a force which drives one to progress along the spiritual path. In reality, everybody is a believer in something and it is this belief which is a driving force along a path to fulfillment.</p> <p>p.64 - The Sufis always say that if you follow your "heart, you will be all right. The Qur'an also says that the "heart" never lies.</p> <p>p.8 - The Sufi is th locus of connecting the outer. Physical reality with a timeless, spaceless dimension, which is experienced within the self.</p> <p>P.9 - The Sufi does his best to understand the causal, physical outer life, while awakening to an immense inner reality, which encompasses both th known and the unknown worlds;the unitive reality of the seen and the unseen, of time and space and non-time space.</p>	<p>p.42 - The word foretaste enters in here ('Supreme Identity' - a foretaste of the truth as expressed by Mansur al-Hallaj) with a view to the Arabic dhawq (taste), a term much used by the Sufis following the Prophet to denote the directness of Heart-knowledge as opposed to min-knowledge. Ghazali i fact defines Sufism as dhawq, an in order to understand how this knowledge which belongs to the summit of the soul and the threshold of Heaven oan have need of a term borrowed from the knowledge which is experienced at teh soul'd lower boundary, the threshold of the body, it is necessary first to understand the universal law of which this 'need' is a particular application.</p> <p>p.50 - If it were not for this barrier, which is the direct result of the fall of man, there would be no need of religion in the ordinary sense,for Revelation would oome directly to each man in his Heart which would then refract the Message to the mind and to the rest of the psychic substance. There would thus be a perpetual flow and ebb between the Self and the self.</p> <p>p.78 - The 1st formula of the litany is an expression of truth and the subjective counterpart of truth is knowledge. This litany as an epitome of Sufism which is often said to consists of fear (makhafah), love (mahabbah) and knowledge (ma'rifah).</p>
8	How does sufism view human beings?	No break between the Divine and human, God and creation omnipresence of God therefore there is no concept of Deism which severs the link between the Divine and the human. Many people nowadays think of God in a deist term this position is			<p>p.3 - The Ocean is within as wellas without; and the path of mystics is a gradual awakening as it were 'backwards' in the direction of the root of one's being, a remembrance of the Supreme Self which infinitely transcends the human ego and which is none other than the Deep towards which the wave ebbs.</p>

Science QP QP in SS **Sufism** mindfulness - issue 1 mindfulness - issue 2 mindfulness ...

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H4

No.	Theme	Author	Lings	Cullen	Grier	Langer	Hyland
1	Issue: Mindfulness Problem statement: contemporary mindfulness is not the same as the original mindfulness (in overall						
1	What is mindfulness - definition in contemporary literature	Haeri		p. 2 - As the founder of mindfulness-based stress reduction (MBSR), the definition of mindfulness by Kabat-Zinn (1994, p. 4) is that which is commonly used: "paying attention in a particular way: on purpose, in the present moment, and non-judgmentally." He has described mindfulness as a "way of being," choosing to think of the work as a dynamic process, embedded within all of life, both intra- and inter-personal, rather than a static technique, practiced only "on the cushion" and thereby compartmentalized to "x" minutes per day. There are two main branches of Buddhism: Theravada and Mahayana... west. Most western vipassana centers are rooted in the Theravada branch of Buddhism. Vipassana, or "seeing clearly," also known as the practice of insight, is comprised of meditation practices based primarily on the Satipattana Sutta, usually translated as the Four Foundations of Mindfulness. In this context, the practice of mindfulness has the potential to liberate the mind from greed, hatred, and delusion as in the following excerpt from the Satipattana Sutta, "This is the sole way, monks, for the purification of beings, for the overcoming of sorrow and lamentation, for the destroying of pain and grief, for reaching the right path, for the realization of Nibbana, namely, the Four			p.171 - Bodhi (2013) explains that the (the Pali word for mindfulness, smriti) meant memory or recollection as interpreted by Rhys Davids the fourth century Pali Text Society in 1910. Another lay meaning relating to "lucid awareness" of the senses was added later and this connection between the "two primary meanings: as memory and as lucid awareness of present happenings" (ibid., p. 25).
					p.8 - Most scientists insist, much like I do, that mental states are clearly linked to physical states of the brain, and that physical laws apply		

mindfulness - issue 1

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