

# **THE BRAIN OF MELCHIZEDEK:**

**A Cognitive Neuroscience Approach to Spirituality**

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**ישוע**

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# Abstract

As a scientist, a person in integrity and loyal to deity, I consider the most important undertaking to understand and communicate the neuro-genetic implications of **Spiritual and Behavioural Values** to the attainment of Social Harmony and Peace. This is why this thesis bears the name “**The Brain of Melchizedek**”, in honour to the King of Righteousness, The King of Peace (as portrayed in the Torah) the bearer of a brain encoded with a map to living in harmony and peace.

The Brain of Melchizedek is to be understood under “**The Connective Paradigm of Melchizedek**” which presents a clear distinction between Behavioural and Spiritual Values. This has profound implications in the understanding of the neuro-genetic aspects of peace and social harmony.

The main body of the thesis covers many aspects of cognitive neuroscience and consciousness bringing to the attention of the reader that:

1. Neuroscience has approached spirituality from the thought that the brain is a bounded information processor, which has data packages and routines aimed at the survival of the organism as a self-system.
2. The brain as a physical system is however different than such a system because (a) it is ecologically engaged; (b) it is a quantum electromagnetic device in a quantum field (as is everything else in the world).
3. The combination of neuroscience thinking, philosophical thinking about meaning and consciousness and quantum thinking requires conceptual blending.
4. The result of the works of conceptually blending spiritual experience and scientific research is the emergence of the Paradigm of Melchizedek. That

paradigm has a chance of making sense of puzzling things about the human brain and spirituality.

5. In the Paradigm of Melchizedek the individual becomes attuned to a value structure inherent in creation rather than a system of beliefs and behaviour even though beliefs and practices may steer you towards it.
6. This leads to the acquisition or inheritance of The Brain of Melchizedek, which enables a cognitive map geared towards peace, harmony and altruistic action by the agency of Spiritual Values.
7. All of the above is crucial in the understanding of the difference between the survival mechanisms of the brain and the higher cognitive functions related to constructive creativity, moral action and the appreciation for beauty amongst others
8. Throughout the whole thesis emphasis is made to adopt a systemic and holistic view with the aid of the application of Non Linear Systems Theory and Dynamical Systems for the study and understanding of Cognition and Consciousness.

This is a very unusual attempt in the area of science and as a natural consequence immediately presents an immense challenge with its comforts and discomforts. To be a Scientific Spiritual Synthesis it must acknowledge both Science and Spirituality reflecting the spiritual nature of the paradigm it proposes. This requires an open mind to the study, understanding and comprehension of cognition and consciousness.

# Preface and Acknowledgements

This thesis is the consequence of many years of rich interactions with people, nature, life in large and a personal relationship with The Creator resulting in a direct experience of the spiritual dimension of life.

This experience lead naturally and organically to a synergy between a long experience as a surfer, systems thinker, systems engineer, university teacher in systems engineering, saxophone playing and a consulting practice to the banking system and the oil industry in Venezuela in the area of Strategic Planning and Decision Making. As a teacher I taught for around ten (10) years mainly Decision Analysis, Stochastic Simulation, Systems Optimization, Time Series Analysis and Systems Dynamics. After many years of deep thoughts about systems, science and mathematics and my genuine desire to see Peace and Harmony prevail in this world, I gave my full attention to meditation and the fulfillment of the will of my Creator for many more years while travelling and in New Zealand.

The Paradigm I will present in this work was born with the conscious internalization and expression of Spiritual Values and the meeting of the most delicate and elaborate series of meaningful events, which amongst other things lead my life to The University of Otago. Along with the writing of “Paradise Landing” (a Divine Revelation) came the need and opportunity to articulate a Scientific Spiritual Synthesis.

When reading this thesis the reader should bear in mind that this is a very unusual attempt in the area of Science and that as a natural consequence of breaking the mould of a purely materialistic view of reality immediately presents an immense challenge with its comforts and discomforts.

The reader must approach the thesis with the understanding that to be a Scientific Spiritual Synthesis it must acknowledge both Science and Spirituality and though an

academic scientific document it must reflect the spiritual nature of the paradigm it proposes. This requires an open mind to the study, understanding and comprehension of cognition and consciousness.

This Paradigm presents a clear distinction between Behavioural Values (survival values) and Spiritual Values (universal and liberating values). This has profound implications in the understanding of the neuro-genetic aspects of peace and social harmony. Religious Beliefs are associated with Behavioural Values while Holiness, Wholeness and the State of Being Peace is associated with Spiritual Values available to any human being regardless of his or her behavioural map of reality.

Though most of the spiritual wisdom and input for this work was derived from my personal relationship with The Creator (revelation and insights), I have made references to the Torah (“Biblical Scriptures”, The Zohar and Sefer Yetzirah) in honor and gratitude to the wisdom left by my ancestors. These accounts and stories are rich in value and meaning to the understanding of many elements of cognition and consciousness both physical and spiritual, leading to the subsequent understanding of the different behaviours, values and social dynamics both towards peace and harmony or war, chaos and destruction.

All of these stories pertain to my human neuro-genetic and make up in connection with the stories of my immediate blood family related to Israel, Egypt, England and Europe.

Also important is my Venezuelan and South American upbringing in the experience of warmth and connectedness, characteristics of the people of that land (whom I consider my close family), felt through the music and the dance both in Venezuela and Brazil. Important to mention is that the warmth of the Venezuelan people and their desire to do good and help goes hand in hand with their deep Love for Yeshua Ben Yosef known as Jesus.

The reader must bear in my mind that I stand in personal relationship with The Creator without affiliation to any religious institution or particular religious group or belief. I see Humanity as One Family, my human family, with the possibility to live wisely, in peace and in harmony with the Universe and The Creator.

I remain in gratitude to every one who contributed knowingly or unknowingly to this work. Particularly, I Am in gratitude to Melchizedek, uncle Yeshua and the ancient and modern Mothers and Fathers who unceasingly worked and lived for peace in fashioning One Universal Family of Love.

Most important of all in actuality I want to express my sense of deep gratitude to Irene and Abraham, Diana and George, Kali and Steve, Lani and Shiloh, Beryl and Peter, Mickey and George, Eduardo and Cynthia, Fernando and Penelope, Esther and Ted, Lidia and Bruno, Suzanne and Raj and the rest. To all the countless Brothers and Sisters from all origins, and races who are an active and felt presence of Peace and Love on the earth.

Finally, I want to dedicate this thesis to Carey, Grant, Kali and Colin whom I have the privilege to be close in life and always assisted and looked after in the different aspects related to the completion of this work.

Always in my heart,

Joshua !!!

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# Introduction

As I was preparing to write this introduction I was sharing with Carey and Shushila about my desire to introduce the reader to the Value of Triunity when, on that evening of 9/11/5770 of the ecclesiastical Hebrew calendar, Shushila opened her mouth to say it was 5:55 on the clock when we entered the room to start sharing about this introduction. To many readers this may be meaningless first because the word Triunity is absent in a majority of the dictionaries (perhaps all of them existing on earth to this day), second because most of the readers at this point in time ignore the existence of Paradise Landing, a Divine Revelation that I received in the desert of Australia which I put into writing a little bit more than eight (8) years ago as part of the fulfillment of my commission as a Son of the Living God, first born of a mother who is part of the tribe of Yehudah (one of the tribes of Israel) and with the call, commitment and covenant to be the light unto all nations.

Paradise Landing contains twenty one prayers of twenty one different Spiritual Values whose source is the Source of all Life. The prayers are grouped by seven colours and the three values associated to the fifth level or colour are Energy, Mastery and Triunity, mathematically referred as 555 in the context of the revelation and also associated to colour blue as in the light spectrum of blue.

Because this thesis is presenting new ways to study cognitive neuroscience aspects of consciousness and spirituality, it requires a paradigm which, instead of seeing opposites as mutually exclusive, polarized and dichotomized, incorporates a unified view of reality where we can find traces of the delicate balance and the complimentary dynamics which opposites display in nature while coexisting in an inherent harmony. An attempt like this presents a challenge both for the Prophet and for the Scientist, especially when the two kinds of minds coexist in one brain which can only be resolved with the agency of a third element, divine inspiration and attunement to the currents of the universe which can produce this synthesis through cognitive blending.

A good starting point to face this challenge is to utter a prayer and the best for this thesis that comes to mind is the prayer for Triunity, which refers to one of the spiritual

attributes and names of the Father and Mother of the Universe that can be found in Paradise Landing (available at your request and convenience from my hands to your hands, or by post mail; email contact: joshua\_888@yahoo.com). That prayer relates to the order of the 555 and the 'aha' moment that Shushila shared with us as a consequence of many coinciding elements of reality synchronized in a meaningful pattern revealing a delicate order pleasant to her soul.

The following prayer is associated to the letter ק (Kuf) of the Hebrew Alphabet which stands for the Value of Triunity and initially it can be understood as any value or group of unified values who can serve as an agent of depolarization and reunification to the re-establishment of harmony when in the face of two polarized forces or Behavioural Values.

I AM THE TRIUNITY.

Father-Mother-Love, Today I am asking you to reveal to me the triunity of your being and give me the capacity of trinitising continuously every thing which seems to be dual.

Thank you Father-Mother-Love for giving me the capacity to trinitise everything which is presented as polarity and in that way bring every element, every part, every relationship to the trinity of the perfect unity of the being which dwells in me.

I Am The Triunity which is revealed in you in each relationship, in each dynamic relationship in the cosmos. I Am the trinitisation of each pair of qualities which reveal the unity of the being of Love, Light and Truth That I Am.

One of the major undertakings of the present thesis is to facilitate a synthesis of ideas and insights about the complimentary nature of the subjective/objective and material/spiritual dichotomies and particularly an understanding about the neural dynamic correlates of higher cognition and spirituality with the description of the neural

biological implications of Spiritual Values while interfacing with the brain (matter field) through the quantum field.

It is important to highlight that the synthesis of spirituality and science as presented in the thesis has the major focus on the existence of Spiritual Values regardless of any particular way that they have been embodied or expressed in the form of Behavioural Values as in different traditions, religious beliefs and practices, bear in mind that Spiritual Values are absolutes like Truth, Love and Unity they are universals to all beings while in contrast Behavioural Values are relatives like honesty, respect and uniformity are local to the group, nation or planet. Universal or Spiritual Values are presented as the essences and forces which act as absolutes in overriding or changing the delicate neurobiological fabric associated with the cognition and experience of Unity and Harmony between different individuals with different cognitive behavioural maps. In that sense they breathe life into people's Behavioural Values and underpin them in human interactions and dealings.

Because this work is limited to the fulfillment of the academic requirements of a Masters in Cognitive Science the focus is placed on bringing about the synthesis between the experience of a Tzadik or Prophet, and the neural correlates and neural dynamics associated with the brain and body of such a person and therefore his or her interaction with the universe. The thesis will address:

1. The limitations of Cognitive Neuroscience under a purely materialistic paradigm to explain the role of Spiritual Values in cognition and consciousness.
2. The work of different scientists who are conducting research to validate new theories about consciousness who are supporting of this thesis.
3. My own spiritual experience as a member of an unbroken chain of Tzadikim and Prophets and Prophetesses part of the Universal Family who are attuned to the order of consciousness akin to the Order of Melchizedek, Abraham, Deborah and Yeshua Ben Yosef who amongst others are accounted in the stories of Israel (known by the majority of people today as the Bible) which I will simply refer to as Torah.

4. Some cognitive linguistic implications as well as an overview of the emotional and executive functions of the brain as complimentary information to the main body of the thesis so as to deepen the understanding of Consciousness, Spiritual Values and Behaviour along with the understanding of Cognitive Blending and Metaphor, Electrophysiological Coherence, and Pregnancy and Values.
5. Additionally, as a complimentary part of the main body, the work will briefly explore the neuro-genetics of spirituality and will introduce the reader to the difference between spirituality and morality and some implications regarding sovereignty and governance.

As you read this work you will realize that most of the words of Torah and the stories of Israel are treated as my own instead of being quoted the way any other references are quoted. This is because I am one with the body, a fundamental part in the unity of this unbroken chain of divine revelation, both physically and spiritually. The wisdom and the words are inspired by the same author, The Creator of all and they are for all people. This is also because those stories were shared with me in the Hebrew language, orally as well as in written form and they are the writings of my ancestral line (great uncles and aunties like great, great, great uncle Abraham and aunty Sarah) as well as wisdom which is written in my heart and mind since I was a child, way before I heard or read the stories to the fulfillment of the words of the Prophet Yirmeyahu. I have provided a translation of them the way I felt appropriate to share them with you as a gift from The Creator given to my fellow human beings through my immediate blood family line to contribute to a scientific understanding of consciousness and many of them more likely will coincide with many translations of a Jewish Tanakh or the majority of other translations.

It is important to clarify that this work avoids any comparative religious approach or theological interpretations about the nature of God or the Divine, making emphasis only on the existence of a Creator source of all Spiritual Values which conform a spiritual field interacting with a quantum field and manifesting in the matter field the reality that we perceive as human beings.

This poses to the reader a view where the spiritual field, the quantum field and the matter field are intrinsically and dynamically interwoven together, as are mind, body and

soul, part of an underlying unity which is only dichotomized through the accidents of limited perception and linguistic limitations.

Different readers will have different impressions about the nature of the divine and in the way the work is presented Spiritual Values will find expression in the matter field in different manners that could lead to different explanations of The Creator's Being and Person and His or Her multiple manifestations. Due to the diversity of manifestations and experiences of the divine and our linguistic limitations this may enlighten the reader or at least bring to his or her attention the complimentary nature of theism and pantheism to name one of the possible perceived dichotomies about the nature of The Creator.

What is important here regardless of the reader's belief about the existence of people like Melchizedek and Yeshua Ben Yosef is the kind of wisdom and understanding about consciousness that their words and actions carry both in joyful or adversary situations. These characters and personalities identify themselves with The Creator's essence and attributes and are inviting their fellow human beings to embrace the possibility to tap into the spiritual nature of human existence to find peace and harmony and to develop a brain capable of a higher cognitive map attuned to God's Consciousness and the universe at large, its environment.

Though this paradigm emphasises the existence of The Creator, this thesis is also appealing to atheists, agnostics or Buddhists who are unacquainted with a personal relationship with The Creator, however who may be deeply in touch impersonally with Universal Values like Love, Unity and Truth within themselves and in relationship to their fellow human beings in personal relationships.

All of the above is an all inclusive invitation to the exploration of consciousness, Spiritual Values and human behaviour, towards a peaceful harmonious way of life and it is also a warning bell about making strong assumptions ruling out any possibilities about the nature of reality; for example ruling out *a priori* the existence of The Creator and closing the doors to the possibility of a personal relationship with the personality of the perfect Being and its neural implications. This would be an extremely high cost to pay in the face of Error type I while rejecting the null hypothesis that The Creator exists based on limited facts, collected as experimental data and statistically analyzed in a linear

fashion. Even if that is taken to imply a very low probability of such an error, in the face of such a near infinity cost and considering the possibility that the results shown by linear statistical analysis diverge significantly from the results of applying non-linear systems to the analysis of the data and the conducting of the same experiment, the price would be too high.

Before I outline the contents of each chapter and some of the ideas presented and a rationale of why they have been chosen and presented the way they are, I consider it important to inform the reader about the writing style which characterizes my person while dealing with complex and sensitive matters like consciousness and the existence of The Creator. First of all to be a Spiritual Scientific Synthesis, the Spirit in which the document is written is the Spirit of Truth, Balance and Humour with a dose of childlike playfulness where I find the freedom to address the reader as my Dear Reader and some times some authors by their first name to relate to them in an intimate, personal, intersubjective way. However most of the time I quote them by family name because of the academic nature of this work and this allows an interplay between the apparent and mutually exclusive opposites of informal/formal.

When I refer to people like Yeshua Ben Yosef as my uncle and I refer to them playfully and in Humour I am doing so with the Certainty that they are my friends and distant relatives with whom I can joke and play and bring light-heartedness to difficult matters. I genuinely see both the reader and the Prophets as well as the different scientists and authors that I have mentioned or cited as my dearly beloved friends for whom I genuinely care.

This writing style is never flippancy and it seems appropriate to this kind of work which is dealing with the balancing of opposites like objective/subjective, formal/informal, serious/light-hearted, playful/intense. If the reader finds it uncomfortable to be called my Dear Reader just change the words in your mind and put the ones in that you would like to be called by. At your personal request and in our person to person relationship I will always call you the way it pleases you, until then you are still my Dear Reader. However if you would react to such a close relationship I will also ask you to ponder and contemplate what kind of brain processes and resistances are taking place in your consciousness while reacting and which kind of Values could be embodied and shared to

overcome the clash of styles, a product of a different cognitive map which would lead to the peaceful reconciliation of styles and behaviours avoiding the colonization of each other's mind and mental spaces, something that would contribute to this work. From my own soul I will commit to do the same.

Though unusual and for some readers uncomfortable to read, I have chosen intentionally to capitalize numerous terms and words usually pertaining to **Spiritual Values** to highlight the distinction throughout the text between them and **Behavioural Values**.

Words like Personality, Character and Identity which I am attributing to a personal gift of The Creator in a personal spiritual relationship have also been capitalized, along with all the names of the Source of all Spiritual Values like for example The Creator, the Most High God, I Am the Love, or Unity to name a few, because of the sacredness and special meaning that they uphold for my person, my immediate blood line, the family of Israel at large, both the known and the lost tribes of Israel and the majority of the people who still stand in awe and reverence to those names, essences and inner spaces in all cultures, traditions and beliefs for all times.

In a sense, this is a guarantee of the integrity of the Spiritual Scientific Synthesis which is being addressed in this work.

Because one of the main subjects of this book deals with Spiritual Values in relationship to brain dynamics and because this is a work for Cognitive Science in capturing the essence of the experience of a Tzadik, Mystic, or a Prophet, the subject of spirituality is dealt with all through the text, without a specific or separate chapter on spirituality or an analysis of what Spiritual Values are according to different philosophical views, religious beliefs or traditions.

In most of the chapters I have clarified different aspects of Spiritual Values particularly what pertains to the difference between religious practices, mysticism and spirituality. Some of the chapters clarify using examples as well as referencing other authors about the differences between religious practices and mysticism. I have also outlined the similarities and differences between the brain of a Mystic and the brain of a Tzadik based on those observations.

This work omits an argument about the nature of Spiritual Values or a theological analysis or discussion about the different academic views, because it is representing the experience of a Prophet, a Tzadik or a Son of God, a person in unity with God's Consciousness, a person who continuously lives a life in God's Will.

From this place and as a representative of that order of consciousness I give the reader the stories and metaphors akin to my own style of communicating the nature of this aspect of reality and I have provided him or her with a definition of Spiritual Values born of my own personal experience and coloured by my personal understanding and appreciation of science. I have also cited some of the ideas of another person akin to that same order of consciousness, a Tzadika, a Daughter of God, Carey Jackman whom I know personally.

On Spiritual Values, from the academic circles, I will briefly invoke the work of Abraham Maslow and J. J. Hurtak, because the Spirit of their work will allow the reader to explore these matters with an open mind away from an over intellectualization, perception and bias about the nature of Spiritual Values, instead of taking face value any definition or belief based on strong analytical or rational grounds of any group, institution, culture, organization or person, including my own.

All the above also applies to Personality, Character and Identity both from a theological and a scientific perspective. However on this topic I have devoted many sections to illustrate the limitations of a purely materialistic reductionist view of personality based solely on brain dynamics and particularly I have addressed the work of philosopher Thomas Metzinger on Self-Models. I have also provided a section on Self, Character, Identity, Personality and the brain to introduce the reader to the incomprehensible and still unexplainable aspects of Personality from where I am standing in my own consciousness together with the Tzadikim, Prophets, Prophetesses and Mystics of all times. As I do, they also regard Personhood as the gift of The Creator to the creature with the potential for life eternal in relationship to the bestower of Personality, who is the First Person and Personality of all.

This will suffice for the scope of this work to convey the main differences between a purely materialistic view of personality from a scientific and philosophical perspective



and the benefits of enlarging this view to incorporate the spiritual nature of human consciousness, the human person and the Personality of The Creator to weave a Spiritual Scientific Synthesis that systematically considers the complimentary nature of personal/impersonal, subjective/objective, material/spiritual, brain/mind as part of the same whole, life itself.

This is an invitation for the reader to find the “Voice of God” within their own garden of consciousness where the seeds of the Tree of Life have been planted to allow those ones who will embrace this exploration in the manner of a Tzadik/Scientist or Prophet/Scientist to taste of the fruits of this tree. Spiritual Values like Love, Grace, Truth, Certainty to name a few might eventually lead to one of those ‘aha’ moments in which a person can discern for him or herself what kind of behaviours and lifestyles are more akin to the expression of those universal and transcendental experiences suited to his or her own Personality, Character, Identity, and cultural and social context, the expression of his or her I AM Identity in the world.

As the Prophets and Tzadik of old I am acting in my capacity to impart through metaphors and storytelling the aspects of wisdom that I consider appropriate for this text. By all means I encourage the reader to seek the wisdom of Tibet, India, Polynesia and any other Indigenous cultures which more closely resonate with his or her own needs in each moment of the journey through life, and to allow the synthesis, the universal transcendental, to reveal itself and then to take that to the realm of his or her own biology and psychology to participate in the science of Spiritual Values. This I am convinced will allow the reader to become a better person well equipped to contribute to a peaceful humanity.

I will also encourage the reader to search for the work of the Greek philosophers of old as well as more recent philosophers like Emmanuel Kant, David Chalmers, Edmund Husserl and Thomas Metzinger amongst others, to explore the nature of consciousness and to compliment the reader’s personal experience with thoughts about Mind, Identity and Personality with which these thinkers have provided us. This I am convinced will help you my Dear Reader to arrive to a personal synthesis between science, spirituality, philosophy and life suited to your own consciousness.

The main body of this thesis is structured in four chapters with complimentary information presented in three appendixes.

Chapter One presents some of the existing work on neuroscience and religious experiences as a brief introduction to the main body of the thesis. It introduces the reader to the work of Mario Beauregard and Denyse O'Leary who have offered a neuroscientist's case for the existence of the soul and a strong critique to the purely materialistic paradigm of Promissory Materialism. It also introduces German philosopher Thomas Metzinger and his work on a theory on subjectivity and self-models and the limitations of a purely biological construct based on information and neural activity which such a representation of self presents.

This chapter also introduces the reader to an alternative for Spiritual and Personal Identity whom Prophets and philosophers like Descartes refer to as I AM, who is the throne or ultimate governing presence of our human consciousness also supported by Husserl, German phenomenologist. And finally an alternative which departs from the polarization of the two opposing views of Promissory Materialism and a purely religious belief or dogma about the existence of the soul based on behaviour which has been presented in novel works about consciousness as a fully systemic non-linear, dynamically complex system based on the delicate interplay between Spiritual Values, quantum interactions and brain processes as depicted by scientists like Leonid I. Perlovsky and Robert Kozma, J. A. Scott Kelso and Emmanuelle Tognoli, and G. Vitiello and Walter Freeman relevant to the topic of quantum fields and cognition.

Chapter Two presents a scientific perspective on the nature of spirituality. The main purpose of this chapter is to introduce the reader to the consequences of Promissory Materialism in treating Consciousness, Spirituality, Personality, Character and Identity as mere biological phenomena, a construction only based on neural dynamics. This chapter cites continuously the work of Beauregard and O'Leary because the author considers it to be an extensive review and critique on the subject of a materialistic view and treatment of spirituality in the field of neuroscience with an alternative to a broader perspective. In their work, Beauregard and O'Leary cover a solid ground of academic and scientific research on the nature of religious and spiritual experience, mysticism and

neuroscience which I consider unnecessary to replicate and which I use where it coincides with my own views.

Through their work the reader is also introduced to the different definitions relevant to this thesis such as Mystic, Mysticism, Spirituality and Religious Experience as well as Spiritual Values and Behavioural Values. Taken together both in Beauregard's review as well as my own observations where we have exposed the limitations of a Promissory Materialistic view and introduced an alternative paradigm, there is academic work in philosophy, theology and science in general and critical analysis which I consider excellent, mentioning authors like Evelyn Underhill, V. S. Ramachandran, geneticist Dean Hamer, neuropsychologist Michael Persinger, M. Alper, Lubica Benuskova and Nikola Kasabov, Daniel S. Levine, Evan Thompson and Francisco Varela, Rupert Sheldrake, neurosurgeon and philosopher Grant Gillett, neuropsychiatrist Jeffrey Schwartz, James Austin, Sharon Begley, neuroscientist Richard Davidson, psychologist William James, philosopher W. T. Stace, A. Newberg and E. d'Aquili, Anne Runehov, zoologist Alister Hardy, philosopher and theologian Rudolph Otto, and Vincent Paquette.

Beauregard and O'Leary have also presented an initial distinction between Spiritual Values and religious values drawing the line on the differences between religious experiences, spirituality, mysticism and mental disorders. However they miss the synergistic properties of the three first definitions when combined, something I have called the Synergy of Melchizedek which constitutes what I have defined as a Righteous Experience which led me to introduce also the definition of a Tzadik. These two definitions are fundamental to this work and together with all of the rest give the reader enough understanding of how spiritual experiences are viewed within both the scientific and religious/theological fields as well as the disjunctions and coincidences between these two fields on this subject and enough reasons to adopt a new paradigm to scientifically study the hard problem of consciousness incorporating Spiritual Values and The Creator and Upholder of those Absolutes. For this reason I have given a short definition for Spiritual Values in this chapter leaving a more detailed one for the chapters to come.

All of the above leads to the main message of this chapter which is to explore the possibility of a new paradigm for research about the brain of a Tzadik and the neural correlates of a Righteous Experience of life as a means to make the choice for peace.

In Chapter Three I have chosen to expand on the review offered by Beauregard and O’Leary by contrasting and comparing neural conceptions of Religious Spiritual Mystical Experiences. For that purpose I review Ramachandran’s God Module to deepen insight into the limitations of such a reductive view and I introduce new scientific theories and paradigms and some new definitions to overcome the limitations of the God Module view by scientific means with the aid of a systemic and holistic approach. This includes the Systemic Memory Hypothesis by Gary Schwartz and Linda Russek, an introduction to Karl Pribram’s Holonomic Brain Theory, the work of Rupert Sheldrake on Morphic Resonance and Morphic Fields, an introduction to the concepts of Brain Dynamics, Oscillators, and Large-Scale Integration, an introduction to an Evaluative System, and finally I touch on Metzinger’s Self-Model and its limitations along with the God Module view.

Taken together all of these theories, paradigms and concepts are paving the way for the reader to understand the systemic properties of Consciousness, Character, Identity and Self and the futility to address the hard problem of consciousness, spirituality and unity with God’s Consciousness from a purely materialistic and reductive perspective. All the theories and paradigms presented constitute in themselves bodies of research well documented and available to the reader in the form of books, papers and articles in different journals and magazines. They represent the efforts of scientists to deepen our understanding of how the brain works, what memories really are, and what consciousness and Spiritual Values like Love are.

In this chapter I lay down some of my basic assumptions about what a human being is and how he or she can become attuned to “God’s Voice or Mind”, what are the repercussions of such an attunement on the brain and the body in general and what kind of cognitive map derives from such an attunement. As part of my own assumptions I have made clear that the existence of The Creator and particularly The Creator’s Personal Character makes it possible to establish a personal relationship with human beings endowed with Personality, something which requires no scientific proof and is

taken as tautological and self evident both from the point of view of The Creator and the creature who share that relationship.

The reader is led to understand the benefits of both Ramachandran's and Metzinger's positions about the nature of Self from a purely biological and informational process system which leads both of them to the conclusion that personality, character, identity and self are a mere illusion of neural activity akin to the concept of '*maya*' in the Hindu tradition. This is a wonderful place to reject any sense of Personality and Self based on brain activity and embrace the transformative power of Spiritual Values spoken by many Mystics, Prophets, Prophetesses and Tzadikim to the realization of the true nature of Self, Personality, Character and Identity, the I AM Identity.

This is the first time in the text where the reader is introduced to the work of scientists like Michael Persinger and Mari Jibu who are pointing out that brain activity is shaped by electromagnetic waves and therefore consciousness and the brain have to be studied in the context of quantum physics. This is also the first time in the text that the reader is faced to consider that a spiritual experience is different than merely brain activity and therefore different than a mental disorder or disease like epilepsy for example.

With all this in mind the reader is introduced to Conceptual Blending Theory, a body of knowledge equipped to explain how the Character and Identity of a Tzadik can be blended with the Character and Identity of a scientist by the activation and deactivation of new neural pathways, providing us with the means to understand the transforming property of values towards Self-Realization and Spiritual Identity.

This chapter presents the reader with one of the most important definitions that I have provided as the foundation of the Paradigm of Melchizedek, which are the definitions for Spiritual and Behavioural Values.

Finally I expose the limitations of Metzinger's model about self and personality and introduce the reader to a definition of Personality or Personhood which is based on Spiritual Values instead of informational processing. This leaves the reader with an initial understanding of the fundamental differences between a biological sense of identity based on behaviour and behavioural relationships in contrast with a Personality

or Person whose existence and sense of Self has its foundation in a personal relationship with The Creator which informs his biological sense of self with the transforming power of Spiritual Values along with his creative capacities. All this is accompanied with the possibility for a human to continuously transform potentials into actuals in life eternal, a human being existing as part of the quantum field which may be legitimately called a quantum being.

In the last chapter of the thesis, Chapter Four, I introduce the reader to the Quantum Brain and explore the work of Stuart Hameroff about the subject of consciousness. Later on in the chapter I weave the connections between human consciousness, God's Consciousness and the Connective Paradigm of Melchizedek and I deepen the understanding of religious, spiritual and mystical experiences from a holistic view of neural systems. This leads naturally to the breaking of the mould of the restrictive model of Promissory Materialism and opens the doors for an alternative paradigm, the Connective Paradigm of Melchizedek. The relationship between Self, Character, Identity and Personality in the brain are re-explored in the light of this paradigm and the Quantum Brain with a final brief outline of the neural systems and neural physics of spirituality and Spiritual Values akin to The Brain and Paradigm of Melchizedek.

The work of Hameroff is relevant for the study of The Brain of Melchizedek, because it addresses subjective experience and in that it allows for the possibility to conceive a human being communicating with God's Mind and enacting the will of God both as a continuous process and in discrete moments. Hameroff offers a different view than Ramachandran's and Metzinger's reductive approach to consciousness and spirituality by incorporating quantum theory, light and electromagnetic waves and the micro structures present in the brain which interact with that domain of reality, to explain consciousness and being.

Further on in the chapter I introduce the reader to the complexities of the study of consciousness and its neural implications and the limitations that the present studies of Neural Correlates of Consciousness present. I touch on the work of different philosophers and scientists like David Chalmers, John Searle, and Thompson and Varela and I elaborate on the necessity of the systemic approach with the aid of non-linear dynamical systems, co-ordination dynamics and meta-stable systems to overcome the

limitations of linear statistical analysis and the treatment of apparent opposites taking into consideration both the quantum field and the matter field and upward causation and downward causation in the context of co-ordination dynamics. In that respect I have referenced the work of scientists like Perlovsky, Kozma, Walter Freeman, Kelso and Tognoli, and Varela and Thompson.

In order to ground this exploration about consciousness and Spiritual Values to neuroscientific research on the Neurobiology of Spiritual Values, I introduce the reader to the work of Newberg and d'Aquili and what they call an Absolute Unitary Being (AUB) experience and the different neural pathways connected to the different systems like the ergotrophic and trophotrophic systems which, with certain practices like meditation and prayer, lead to such an experience. These authors explore the different neural implications between a sense of unity associated with the disillusion of the Self/Other dichotomy boundaries in the brain and the experience of being in unity with God as two different modalities of Spiritual Experience both associated to a process of deafferentation between different areas of the brain, one called '*via negativa*' and the other called '*via positiva*'. Their work has important implications for the reconciliation between different philosophies, religions and cultures about what constitutes a spiritual life and why some human beings may become an embodiment of Spiritual Values like Love and Compassion with or without being consciously engaged in personal relationship with The Creator.

Newberg and d'Aquili consider the different behaviours and practices of meditators, Mystics and religious people, formulating models and a theory about the dynamics of different brain systems along with the autonomic nervous system and they have tested some of those models with empirical data referenced to the neural basis of Spiritual Experience. Later on I propose that this is just the beginning of the story for a brain which is wired to hear the "Voice of God".

I will propose that along with such a transformation in the cognitive map and the resulting perception of reality, a large scale integration through synchrony of neural assemblies may be triggered which may also lead to the synchronization and entrainment of other body oscillatory systems like the heart, the respiratory system and the digestive system in the manner described by scientists like Rollin McCraty and Doc Childre.

At this point of the thesis the reader will have been exposed to a set of fundamental ideas which may lead him or her to value and embrace the paradigm proposed by this work. These main ideas are: the inadequacy of the individualistic and materialistic approach to consciousness, the possibility of connectedness, interrelatedness and wholeness, a brain theory that is both functional as well as entangled with quantum states exquisitely sensitive to Orch (OR), consciousness as a matter of the whole and the relation between the whole and its (maximal) context instead of consciousness only in the (material) part, Orch (OR) and the possibility of connectedness with the whole of the organism's environment, all inclusive of the world, the universe and the Light of God, The Creator who is the All Inclusive Being in every being in the universe.

At this stage The Connective Paradigm of Melchizedek begins to emerge as the foundation to the study and understanding of the interplay between the Spiritual and Physical Domains of human consciousness by the agency of Spiritual Values. In order for the reader to better comprehend the cognitive implications of this paradigm at this stage it is also highly recommended that he or she read Appendix B which deals with Implications for Cognitive Neuroscience - the Cognitive Functions, Emotional Functions and Executive Functions, and thus be able to embrace the neural implications of the brain of a Tzadik capable to experience a transformation in his or her cognitive map through a revelatory process of divine revelation, something which posits a radical transformation of theory of consciousness.

All this leads to deepening the exploration of the benefits associated with the understanding and comprehension of Self, Character, Personality and Identity under such a paradigm where, by the agency of Spiritual Values and God's Consciousness, the human is potentially liberated from antecedent causation. This is a fully realized human being in his or her genderless I Am Identity who consciously lives in eternity and, while in the body, is engaged with other humans in the transformation of the human species, to a new collective cognitive map with higher cognitive abilities conscious and attuned to a greater sense of unity and peaceful co-existence with different forms of life.

At this point the reader is advised to read about the moral implications of this paradigm in Appendix A as well as the neuro-genetic implications of this paradigm related to a peace propagation process from generation to generation.



All of the theories and hypotheses of the different authors mentioned in this work taken together, provide a framework of reference to understand what Spiritual Values are as scientists allow themselves to move beyond the materialistic view of human function.

This also provides an open door to find meaning and inspiration to explore a universe which is populated with caring, loving and constructive human beings, a paradigm which sees Goodness, Beauty, Truth and Harmony available to all creatures (and particularly scientists, philosophers and theologians) to overcome selfishness, fear, greed, and ignorance based on transitional and temporal structures for physical survival, destructive behaviour and war.

However, for the majority of human beings still living on this earth, Spiritual Values find their expression in the context of Behavioural Values. These two are intrinsically related and therefore, inevitably this will raise the future need to investigate also the Neurobiology of Behavioural Values in the context of Spirituality as portrayed by The Paradigm of Melchizedek.

# Chapter 1

## Existing work on neuroscience and religious experience

Recently, a new wave of scientists with a solid spiritual foundation have appeared in the scientific scene, to address the limitations of a purely materialistic paradigm for scientific research as well as the limitations of the study of religious experience and its neural correlates as purely behavioural phenomena.

Two of them are Mario Beauregard and Denyse O’Leary who have offered a **“Neuroscientist’s case for the existence of the soul”**. This is a brave undertaking considering that the field of neuroscience has been influenced almost in its totality by a materialistic view of reality.

In this respect their work deserves special attention because it addresses the limitations of a purely materialistic paradigm and they have presented a Spiritual Paradigm, which in their view accounts more appropriately for reality as a whole in a way that contributes to the **Spiritual Scientific Synthesis** that is **“The Brain of Melchizedek”**.

They have addressed some of the limitations of the work of materialistic scientists and philosophers such as philosopher Daniel Dennett, sociobiologist Edward O. Wilson, cognitive scientist Steven Pinker, and zoologist Richard Dawkins amongst others.

For most of these thinkers, the existence of The Soul, Will, Mind, Self, Personality, Character and Identity are mere illusions of the brain, “Dennett speaks for a number of neuroscientists when he says, ‘A brain was always going to do what it was caused to do by current, local, mechanical circumstances.’”(Beauregard and O’Leary 2007, p. 4)

This view is even more reductionist and materialistic than Ramachandran’s (which I will come to) where there is no place for a Religious Experience or a Spiritual Life as a testable model of reality.

Beauregard and O’Leary note that neuroscientists have never proved or disproved the existence of the self or soul, yet have merely made assumptions about it.

...neuroscientists have not discovered that there is no you in you; they start their work with that assumption. Anything they find is interpreted on the basis of that view. The science does not require that. Rather, it is an obligation that materialists impose on themselves. (2007, p. 4)

Even though all of the above may describe the predominant views of many philosophers and neuroscientists in this century, this view of the world may be a reaction to so much religious violence and dogma that has crystallized a new form of scientific dogma.

Many scientists and philosophers may profess to be atheists or without a religion, yet relate to other people, with kindness, love and appreciation for others suggesting that, even though people may verbalize their spirituality in different ways and even have an aversion to use words like “God”, they would agree on acknowledging a source of values or some other framework for human conduct.

In 2004, one of the world’s best-known apologists for atheism, philosopher Antony Flew, announced that the apparent intelligent design of the universe and of life forms had convinced him that there really was some sort of deity. Flew, it should be noted, did not join a religion, in the usual sense, but rather became a deist-that is, he came to believe in God based on external evidence, not personal experience. (Beauregard and O’Leary 2007, p. 6)

People like Antony Flew and for instance the Dalai Lama are indicative of the transformative power and universal nature of Spiritual Values within different philosophical frameworks and perceptions about Deity. Because of the universal character of Spiritual Values I am intending to explore which of Beauregard and O’Leary’s findings are related to this kind of Values and which of them to Behavioural Values and to explore a possible distinction between the two categories.

Beauregard and O’Leary wrote their book intending to demonstrate that altruism and spirituality is more than just a survival mechanism of the species and gathered evidence mainly from neuroscience and other scientific disciplines to support that view. They also acknowledge the existence of a sort of Darwinian evolutionary process where there is

meaning, purpose, direction and spirituality within the expression of the material creation.

One of the human traits that Beauregard and O’Leary find lacking in the rest of the animal kingdom is Altruism and they claim that, humans are the only species wired for selfless actions placing the wellbeing of others before their own. What is unclear in their explanation is whether this is because of a behavioural pattern based on **Behavioural Values** with certain associated rewards, or because this is motivated by the conscious embodiment of **Spiritual Values** like Love.

They claim that science has been limited in advancing a meaningful, spiritual view of humanity and the universe because the governing paradigm for modern scientific research, **Promissory Materialism** - the idea that material causal explanation is adequate for our understanding of human beings, shapes the scientific decision making process and is threatened by and usually disapproves of research that looks into Spiritual Values, Meaning and Purpose.

For example, the phenomenon of consciousness, spirituality and particularly “The Self” has been treated recently by Thomas Metzinger. Even though his philosophical views limit and reduce a human being’s identity to a complex system of information processing, his work presents certain interesting characteristics, observations and comments about what is a false construct of identity, based merely on Neuro-Genetic biological and mental representation communicated by the agency of language.

In Being No One, The Self-Model Theory of Subjectivity, Metzinger starts with some statements that devalue a spiritual approach.

Nobody ever *was* or *had* a self. All that ever existed were conscious self-models that could not be recognized *as* models....You are such a system right now, as you read these sentences. Because you can not recognize your self-model *as* a model, it is transparent: you look right through it.... This is not your fault. Evolution has made you this way. (2003a, p. 1)

Here is the situation. If human beings are wired by evolution with an informational Self-Model that is meant to be invisible and transparent, I would like to know who told Thomas that this is so or whether he, unlike every other human being, had an antidote

which prevented him having to ‘look right past it’ so that he could relate to that information as a focused self with a rational ability to determine his attitude to it. And second, if evolution revealed only to Thomas that self is a mistake (that there are only self-models), should the rest of humanity ignore that for their well being or is this inquiry and rational analysis something apart from the thrust of mindless evolution. Did Evolution change the plan if consciousness of the self-model unsettles something that nature has given and established to be veiled for the good of the human species?

However, it seems to me that his work is very valuable in the context of a materialistic, technological society. This is because it is giving us a model of an aspect of reality that is crucial to realize in order to know a True Spiritual Identity, because many of the people do still identify themselves with their physical bodies and information processes.

Human Neuro-Genetic Biological Identity, usually described through the agency of language is a false identity and the best and worst linguistic approximation to the Spiritual, Personal Identity is, “I AM”, which needs neither justification nor explanation, (note that Descartes considers I AM to be the primary datum of self-consciousness).

To do justice to his work I will expand by saying, I WAS, I AM, I WILL BE. The Hebrew words, pictographic letters and meaning of the name (I WAS, I AM, I WILL BE) is something that deserves special attention and meditation. It talks about one BEING, eternally present in the ETERNAL NOW MOMENT, witnessing the continuous transformation of energy systems and matter in whichever way they manifest (for example Self-Models).

This thesis takes the view that the way human beings think of themselves changes the way they perceive reality and their knowledge of themselves - as extended intelligent comprehending and integrated beings. Similarly Husserl (1991), the German phenomenologist has referred to retention, present and protention. Retention is a present where the past flows through consciousness and protention is always part of the present moment which is a sense of the immanent as well as imminent future, a future that is within the present moment as well as a future about to come, both very different than memories or expectations. Personally I stand for the view that The Creator is present to the retention and protention in every present moment of every creature present in the

universe past, present and future, all is One Being. That might well be the view of many believers.

Although the biological identity construct is manifested by evolution, the reality on which it is based precedes the evolution of cognitive structures. Metzinger claims that human beings are naive to this biological construct, which from my perspective could be seen as a protection of the human integrity until that temporal boundary can be overcome by the realization of the Spiritual, Eternal and Personal Identity, gently, ideally and for many people through a crisis. This is like a snake that sheds her skin or a caterpillar that in a “meditative retreat” in his cocoon transmutes to a butterfly where the skin is the self-model constructed out of a basic survival view of who the person is and the matured or flying self is what and who the person realises him or herself to be when the person wakes up to their spirituality. I explore more of Metzinger’s work in a later chapter.

In the following chapters I will introduce the reader to a way of understanding spirituality that departs from the promissory materialist assumption and explores connectedness to a wider framework of value in which human beings can be united beyond the individualistic level, according to the law of Love and experience a synthesis where aesthetic values (Spiritual Values) decoded as special emotions in the brain go hand in hand with the creation of new knowledge which is emotionally valued leading to the improvement of cognitive abilities as described by Perlovsky and Kozma.<sup>1</sup>

This approach highlights the necessity of adopting a systemic approach particularly to understand the brain as a dynamical system to deal properly with two perceived opposing views, the highly specialized and localized functional brain view and the fully integrated holistic one to see them as complementary, plausibly described as Metastable Coordination Dynamics of the brain by Kelso and Tognoli (2007, p. 39).<sup>2</sup>

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<sup>1</sup> Neurodynamics of Cognition and Consciousness. (2007)

<sup>2</sup> “Toward a Complementary Neuroscience: Metastable Coordination Dynamics of the Brain”, (pp. 39-59). In, Neurodynamics of Cognition and Consciousness, Perlovsky and Kozma, Editors (2007).

## Chapter 2

### **The nature of spirituality, a scientific perspective**

A Spiritual Scientific Synthesis suggests a way of relating Spiritual beings and The Creator in a manner that is appropriate to a person's own personal history, nature and genetic information. As a result humanity can aspire to consciously model, fashion and establish a family-like bridge of intersubjectivity between different cultures, nations, races and people with different religious beliefs and Behavioural Values by research into common origins and Universal Spiritual Values common to all members of a diverse humanity.

Neurosurgeon and philosopher Grant Gillett has proposed a very interesting set of theorems and corollaries which arise from the general naturalistic axioms of human morality. They assert that we are all natural beings who live in community and have different perspectives derived from different sets of conversations and positions in the human life-world. The basic position has fairly universal implications as he points out giving a starting point to the acknowledgement of the value of all individuals and their place in the cosmos and the community.<sup>3</sup>

For example both the Israelites and the Tibetans have a human body and a need for a piece of land and food to exist as humans. Each of them are members of an interactive community, the Family of Israel and the Family of Tibet. Though these two communities both share a vision for world peace they have different perspectives based on their different philosophical contexts and situations. These perspectives derive from the stories of the Twelve Tribes of Israel and the Prophets and Prophetesses of that people who came to point the way towards peace, and the stories of Buddha and his teachings, who also came to point the direction of peace so valued to the Tibetan people.

When we allow the synergy which is derived of sharing the knowledge related to the stories of these two distinct groups of people much is there to be gained towards peace.

One of the major questions open to inquiry under a spiritual scientific paradigm would be what, why, when and how did The Creator decide or start the enterprise of the universe from the perspective of the creature of time and space. What can human beings discern from that perspective about the spiritual and material causes of such an undertaking, what are the relationships between material systems and spiritual currents in the universes, how do they interact and what is the role of the brain in that? In what way could the philosopher and the scientist ask, is it true that, “The Lord has made all things for himself”, (Proverbs 16:4). To find out, the need is raised to explore the dynamics between a human’s spiritual being and his or her physical body, the interplay between Spiritual Values and Behavioural Values and particularly, the effect of Spiritual Values on the brain.

I will begin by reviewing Beauregard and O’Leary who have touched on the following subjects:

- An analysis of popular theories about Spiritual Experiences that support a view of the world without a Deity.
- An analysis of the idea of a “God Module” in the brain responsible for spirituality.
- A review of the “God Helmet” by Dr. Michael Persinger, a neuropsychologist at Laurentian University in Sudbury, Ontario and some limitations about his research.
- What is the mind/soul/psyche for current neuroscience under the materialistic paradigm of reality?
- Studies showing how the mind acts on the brain as a nonmaterial cause and a new hypothesis for mind brain interaction.
- Who has mystical experiences and what causes them?
- The transformative power of spiritual mystical experiences.
- Introduction to a research project to identify brain dynamics and brain localized neural activation during mystical experiences and union with God with Carmelite nuns.
- A brief inquiry of whether God created the brain or the brain created God.

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<sup>3</sup> Bioethics in the Clinic – Hippocratic Reflections. (2004)



Beauregard and O’Leary have conceded that nothing can be proved at a neural level about the existence of God. They have also made it clear that nothing can be proved that suggests that spirituality, mysticism and religion are just and only the effect of brain activity without the intervention or existence of any spiritual reality or a Creator. They have for the sake of simplifying terminology stated that because there is an overlapping common ground to spirituality, mysticism and religion they are going to treat them as the same phenomena based only on this common ground. All this they say based on the evidence collected leads to the conclusion in their own words, “...that it is reasonable to believe that mystics do contact a God power outside themselves.”

This statement is, however, ambiguous because it describes a God conceived as a material entity somewhere outside my Being, instead of a Spiritual Being approachable in and through my Being by the agency of Spiritual Values. To be One with God is different than contacting an external Deity foreign to my own being. An alternative would be to think of my Heavenly Father-Mother as residing in every human being regardless of their awareness of that. It is the prerogative of the creature to find out and explore this mystery, a personal adventure and discovery.

The way that one thinks of spirituality may in part, be a matter of semantics and in any case, the reported and researched experience of contacting God, may shed light on a self induced experience through imagery which may open the channels of communication with the Spiritual Domain, however in other cases there may also be purely a visual, auditory and kinesthetic experience with certain neural correlates that is central in Spiritual Experience.

Spiritual Values and Behavioural Values are different, however they are both intervening elements to the kind of experience reported as Spiritual Experience and their difference helps make distinctions between religion, mysticism and spirituality. This is illustrated in the following examples, where an initial approximation to a distinction between the two categories can be made:

<b>Doing, Practice, Religion (Behavioural Values)</b>	<b>Being, I AM Identity (Spiritual Values)</b>
Religious Ritual (sharing bread and wine)	Grace, Peace, Unity, Love
Mystical Path (Tantra Yoga)	Grace, Peace, Unity, Love, Humour

Spiritual Workshops (Quantum Healing)	Grace, Peace, Unity, Love, Humour
Surfing (Waiting for a wave)	Grace, Peace, Unity, Love, Game
Walking in Nature and silent moments	Stillness, Grace, Peace, Unity, Love
Playing Music	Unity, Love, Game, Humour, Mastery
Walking in God's Will and Perfect Communication	Humour, Game, Love, Order, Synergy <sup>4</sup>

Some of the most important questions to ask concern the neural correlates or brain dynamics of the brains of people in whom somebody might want to say that the Light of God shines, even in simple encounters on the streets or in a laboratory, and what neural and physiological effects can be detected in different situations with spiritual, mystical and religious experiences? It is important to note that Beauregard and O'Leary have introduced this distinction implicitly, with very interesting examples as well as acknowledged the possibility of the existence of a divine and intelligent neuro-genetic design in the human organism to facilitate the experience of communion and communication with God.

The fact that the human brain has a neurological substrate that enables it to experience a spiritual state can be construed as the gift of a divine creator or, if you prefer, as contact with the underlying nature or purpose of the universe,....At the same time, no claim is made here that every activity pursued in the name of religion is good or equal. (Beauregard and O'Leary 2007, p. 39).<sup>5</sup>

For Beauregard and O'Leary, atheistic views based on an evolutionary neuroscientific explanation of spirituality have a fundamental limitation: materialists and atheists regard different religious behaviours and the related neural activity in different areas of their

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<sup>4</sup> The Value of Game for example pertains to playfulness, learning and fun, as expressed in Paradise Landing (131 **ישוע** 888, p. 18), "I Am the Game which you have to play to know me. I Am the Laws of the game of creation, Play, Play, Play with me, I Am the one who has the fun in you, I Love You!"

<sup>5</sup> "Consider the following well-known (and now deceased) figures:

Mother Teresa—founder of ministries to the poorest of the poor  
 Jim Jones—cult leader who led eight hundred followers to suicide  
 Baha'ullah—founder of a new religious sect encouraging interreligious peace  
 Mohammed Atta—9/11 suicide bomber  
 Mahatma Gandhi—founder of a nonviolent civil disobedience movement  
 David Koresh—killed in 1993, with seventy-five followers, in a standoff with the FBI

All these figures were motivated in some way by religion. Yet they did very different things, with very different outcomes." (Beauregard and O'Leary 2007, p. 39)

brains, as all there is to spirituality. Beauregard and O’Leary claim that what matters is the idea that intelligence and wisdom (different from animal instinct) are keys for discerning different aspects of reality that are meaningful to human beings and prompt them to action, whatever specific region or circuit in the brain is involved.

In my view, the brain is wired both to develop instinctual survival neural pathways as well as the capacity to develop a neuro-cognitive map of reality, aspects of which go beyond the survival sphere (for instance into poetry or meditation), which allows the communication with the source of all Intelligence and Wisdom. This allows a human to act with spiritual awareness and consciously instead of merely reacting continuously to his or her environment as animals do for their survival.

Beauregard and O’Leary see Alper’s research on the “God Module” - the idea that there is an area of the brain in which activity corresponds to religious experience as poor science, arguing that his research is fuzzy and inconclusive based on many “perhapses”. They comment on other lines of research which have shown that spirituality, emotions and complex cognitive process are mediated by different areas of the brain interacting with one another instead of a single “God Module”. They write, “... two problems dog Alper’s thesis: (1) it begs the questions it attempts to answer; and (2) there is no real science behind it” (Beauregard and O’Leary 2007, p. 44) and conclude that Alper’s hypothesis fails the tests of testability and falsifiability.

They properly substantiate their claims by explaining that religious behaviour is a poor sign if at all a sign of genetically inherited instincts and they emphasise that what human beings inherit is the capacity to make abstractions about ideas like God. They point out how deceptive can be the search for “an inherited mechanism or process that governs specifically religious ideas.”

A critique is provided to Alper’s assumption that the need for the existence for God in ancient times was related to the survival of the person or the soul after death and they explain that “from what we know, most human cultures have simply *assumed* that humans survive death”, and have described some of the different views about the spiritual worlds in different cultures and substantiated them with the observations made by anthropologist J. G. Frazer, Michael Joseph Gross and others.

As I said before Beauregard and O’Leary have critiqued Alper’s science as very poor and have explained that based on what we know from cognitive neuroscience there is very little evidence that there is a God subsystem or structure in the brain which mediates spiritual cognition, and that more likely according to the evidence they have provided throughout their book spiritual and religious experiences are mediated by different areas and subsystems of the brain, something that they have supported with evidence from different scientists, scholars and experimental data research.

However, even scientists who are set in their materialistic views about spirituality do research that is valuable to the understanding of spirituality, religious experience and God in that they allow the scientist to explore this phenomenon from a purely evolutionary psychology perspective that imposes its own limitations onto a broader understanding of the universe, even though it contributes to a “robust” yet partial understanding of the human organism, especially when it is done with a systemic view and for constructive reasons with respect and appreciation for life and its delicate fabric.

Another issue relates to the work of some scientists like geneticist Dean Hamer who have proposed that there is a “God Gene” (or group of genes) correlated with religious and spiritual experience that can be passed from one generation to the other and that facilitates a human propensity for Spiritual Experience.

Hamer accepts the possibility of the existence of God or at least presents his work without denying God’s existence and he argues for the idea of genes like the “God Gene” contributing to the survival of the species in an evolutionary process. He makes a distinction between learned religious behaviours and Spiritual Values related to self transcendence and proposes, through the study of twins, that religious behaviours are learned and spiritual propensity is enabled through genes.

Hamer presents an important biological perspective in differentiating Spiritual Values from Behavioural Values and could be interpreted as showing that in God’s evolutionary process of time and space there is a provision for a mechanism to guarantee the survival of the human species both biologically in finite time-space as well as spiritually in eternity. From that perspective, “the idea of God” could be seen as the most important survival value for the soul as it preserves the possibility of knowing God and the

spiritual dimension of reality from generation to generation. Though out of the scope of this thesis this raises the need to understand and model the neurogenetic implications of spirituality and the neurogenetic dynamics of Spiritual Values and their propagation through the human species. Benuskova and Kasabov<sup>6</sup> have shed some light on how to address and model the interaction between neurons and genes as dynamical systems. This dimension (the spiritual one) can plausibly be associated with higher needs akin to the human species, with higher needs like the need for spiritual relationships, constructive creativity as in the Mastery of arts and music, scientific insight, self fulfilment, and self realization, all of those interacting needs explainable as a non-linear dynamical system for decision making delicately developed in the brain and recently modelled with the aid of Adaptive Resonance Theory (ART) as explained by Daniel S. Levine:<sup>7</sup>

...survival and reproduction do not explain all behaviors. In addition, human beings seek well-being: self-actualization, pleasurable stimulation, aesthetic harmony, mastery, and meaning all can be powerful motivators...While evolutionary fitness can provide plausible functional accounts of most of these motivators, the behaviors they generate have a life of their own apart from their survival or reproductive value. (Levine, p.164, 2007)

This perspective - the idea of the human spirit expressed in a number of ways and the possibility of spiritual knowledge and wisdom, instead of just biological experience - is missing in the work of scientists like Michael Persinger who speaks only about the God experience in terms of temporal lobe activity related to survival needs and self awareness with both, positive and negative, constructive and destructive consequences in the transformation of behaviour. Such Behavioural Values leave out completely the possibility of a spiritual reality and source of Spiritual Values (Persinger 1987). However, this kind of work is valuable in the sense that it helps clarifying how the agency of Spiritual Values and The Presence of The Creator in relationship to the human mind leads to loving action and constructive intelligence (being the mark of true spirituality) instead of violent, destructive, fearful, and survival fear-based actions towards the community and life in large with different neural dynamics, neural correlates and physiology in general.

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<sup>6</sup> Computational Neurogenetic Modeling. (2007)

Beauregard and O’Leary also make some interesting distinctions between religious, spiritual and mystical experiences.

Before we get started, perhaps terminology should be clarified. For the purposes of this book, “religious” experiences are experiences that arise from following a religious tradition. Spirituality means any experience that is thought to bring the experiencer into contact with the divine (in other words, not just any experience that feels meaningful). Mysticism generally means pursuit of an altered state of consciousness that enables the mystic to become aware of cosmic realities that cannot be grasped during normal states of consciousness. (2007, p. 59)

They refer to Religious, Spiritual and Mystical Experiences (RSME) yet have missed the synergistic properties of the three definitions when combined. I will call this Synergy, **The Synergy of Melchizedek**; it constitutes what I will call a **Righteous Experience**.

The Synergy of The King of Righteousness - A **Righteous Experience** of life - is derived from an intimate communion and constant connection and communication with The Creator and life in large, The Universe. A Righteous Experience of life is associated with the status of Sonship or Daughtership with The Creator as a Father-Mother of all. Sonship or Daughtership is better defined as a state of being in unity with God and attainment of God Consciousness. A Son or Daughter is only concerned with doing the will of God and finds it easy and amenable to intermingle and get to know his or her fellow human beings. His or her Love for The Creator and other humans allows him or her to gracefully and happily participate and serve in the lives of people with different religious traditions, beliefs or cultures. His or her main service to humanity is to reveal and show by example how to live a life of this kind and therefore make this experience available and attainable to other humans. From now on I will refer to a Son or Daughter of The Creator who is fully active in doing the will of God as a **Righteous Person** (In Hebrew called a **Tzadik**) and it will become evident that a key component of righteousness is right connectedness with life and other humans instead of just inner states of mind.

A **Tzadik** exists with a Universal Paradigm and a cognitive map tailored to the embodiment and expression of the Spiritual Values of The Creator. This links them all to

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<sup>7</sup> In, “How Does the Brain Create, Change, and Selectively Override its Rules of Conduct?” (2007)

One common Origin (One Universal Family), Source and Centre of Spiritual Values and Life. This enables in the human being the communication and communion with The Divine Source and re-spatializes his or her consciousness to comprehend cosmic realities through new and unknown states of consciousness to the human until then, leading him or her to the desire to do good and God's Will.

This initial definition opens up the possibility to formulate a paradigm for research about the Neural Basis for The Brain of Melchizedek and the Neural Correlates of a Righteous Experience.

Some of the conclusive statements that Beauregard and O'Leary have made are supportive of the kind of research suggested and are related to six fundamental weaknesses that Promissory Materialism is powerless to address. According to Beauregard and O'Leary they are:

*1. Current materialist accounts aim to preserve materialism rather than account for the evidence...2. Materialism leads to major disconnects in thinking...3. Materialism leads to hypothesis that can never be tested...4. Promissory Materialism leads to the promotion of impractical projects in the indefinite future to avoid grappling with current issues...5. Taken seriously, materialism undermines our capacity to eventually understand the human mind and the human brain...6. Materialism is out of step with modern physics. (2007, pp. 120-123)*

Claim One (1) indicates the way that a question which aims at the framework of inquiry is omitted in the research and that rests on a background assumption that an open-minded or truly philosophically informed scientific inquiry must avoid making. Claim Two (2) implies that there are areas of philosophical thought aiming to a full description of reality which are ignored by the materialist view and more likely lead to the perception of a distorted pattern of reality. Claim Three (3) deals with the limitation that a hypothesis for example that Spiritual Values exist and have an effect on brain processes could never be tested. Claim Four (4) addresses for example the impracticality of trying to convince or force the majority of humanity to betray their spiritual integrity and religious loyalties for the sake of a purely secular world (the view of a powerful minority). Claim Five (5) is aiming at making an emphasis that such a view, when stubbornly and inflexible pursued, will inevitably prevent the scientist and philosopher from understanding the complementarities of spirit and matter reflected in mind and

brain dynamics. Claim Six (6) appeals to quantum physics and the role that light, electromagnetic waves and fields in general affect the matter field and particularly brain processes and consciousness and how the understanding of this delicate fabric of reality is obscured by the materialistic view.

Their criticisms are philosophical and highlight the fact that the materialist paradigm is basically an ontological commitment and avoids any postulate beyond matter and the categories of biology to explain everything that happens in the world,<sup>8</sup> it is its inability to cope with what is encountered that reveals its inadequacy.

One of the important aspects of shifting to a different paradigm is to find a way to account for phenomena that is veiled to the former paradigm. Because a pure promissory materialist paradigm conflicts with any paradigm which aims to account for a spiritual dimension of reality, the need arises to bring about a synthesis which can account for both the material and the Spiritual Domains and their interplay. This synthesis presents many advantages some of them described by Beauregard and O'Leary.

Some of these advantages are confirmed elsewhere:<sup>9</sup>

- Studies on Brain-Heart entrainment and coherence have shown that human beings can self-regulate at will their inner states of being and their emotional and cognitive experience which can be registered in heart rhythms and neural correlates in different ways. This leading to a sense of wellbeing, happiness and peace with increased cognitive performance and creativity as well as betterment in physical health. This has been called Psychophysiological Coherence.(McCraty 2002)
- Healing of certain conditions in the body by changing thought patterns (the way people think) which have been also experimentally verified by the studies on the placebo effect (Beauregard and O'Leary 2007, p. 242; Ader Lancet 1995 on Psychoneuroimmunology) and downward causation and the study of humans with epilepsy where the person voluntarily alters and

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<sup>8</sup> (like all disputes over paradigms, evidence gathered within a paradigm is unchallenged by it and it is only the gaps in that evidence)

<sup>9</sup> And in my own personal experience.



affects his or her electrical condition that usually would lead to a seizure. (Thompson and Varela 2001, pp. 418-425)

- The ability of some people to influence material events through their own mental process as shown by some of the studies on Morphic Resonance and Mental Morphic Fields. (Sheldrake, 1981, 1988, 2003)
- And many accounts of people who through emotional crisis, different forms of trauma and surgery have had a life transforming experience of a spiritual kind.

All these accounts in accord with a Spiritual/Physical Synthesis can be of immense value to evolve and enhance the approach and treatment of many “mental disorders” and with a critique of the materialist philosophical paradigm and an alternative approach to the understanding of “mental disorder”. Gillett (1999)<sup>10</sup>, for instance, argues that human beings can only understand themselves as beings-in-the-world-with-others who need connectedness with others both to define their own souls (psyche) and to have fulfilling lives. Although Persinger also relates the God experience to epileptic seizures he acknowledges that for the majority of the people an experience of this kind (a God experience) has nothing to do with brain damage or mental disorders when he writes that, “would contradict their functional significance, unless one assumes that brain damage has survival value” (1987, p. 14). On this subject Beauregard and O’Leary write:

A nonmaterialist approach to the mind is not only philosophically defensible; it is critical to alleviating some psychiatric disorders. Obsessive-compulsive disorder and phobias, for example, may be more effectively alleviated if the mind recognizes and reorganizes destructive brain patterns. This is not to disparage the role of drugs, therapy, or other useful interventions, but ultimately the mind is the most effective agent of change for the brain. (2007, p. 126)

Their approach is reminiscent of the words, “Commit your doings to the Lord and your thoughts and plans will be established and manifest” and the many other prophetic and healing events reported in scripture is confirmed in recent psychiatric reports.

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<sup>10</sup> [The Mind and Its Discontents - An Essay in Discursive Psychiatry.](#)

Jeffrey Schwartz, a UCLA Neuropsychiatrist has conducted research and therapy to change the condition of patients with the so called Obsessive Compulsive Disorder. He identifies conditions in which this pattern of behaviour manifests in the brain and devises ways to change it by interacting with the person and asking them to voluntarily be aware of and work on those intrusive and destructive thoughts and views of reality. This, he claims, results in remapping the experience of the person onto a new cognitive map of reality where he or she learns (Producing Neural Changes) that these destructive thoughts can be separated from his or her identity and related to as a “sort of a different entity” (Beauregard and O’Leary 2007, pp. 125-130). In this work, the person is overcoming the condition by changing his or her internal identity so as to find a sense of values and inner clarity and strength to deal with “the OCD entity”.

Schwartz also notes that certain prefrontal parts of the brain (the most recently evolved) are relatively untouched by this type of condition leaving the person with an intact sense of Self, Personality, Identity and reasoning power so that he or she can participate in their own therapeutic healing.

This was the first study ever to show that cognitive-behavior therapy-or, indeed, any psychiatric treatment that did not rely on drugs-has the power to change faulty brain chemistry in a well-identified brain circuit....We had demonstrated such changes in patients who had, not to put too fine a point on it, changed the way they thought about their thoughts. (Schwartz and Begley<sup>11</sup> 2003, p. 90)

These findings are very interesting because it shows that a person can be empowered to deal with an “entity” from a place of Personal Identity with the possibility of realizing Spiritual Values like Truth, Certainty, Love, Unity, Grace, Strength as part of his or her own true Identity, and thereby developing a sense of Integrity. Interestingly enough, this disorder is connected with the Orbito-Frontal Cortex, where much of the Decision-Making based on an evaluative system (connecting self and others within a social and interpersonal reality) takes place in the brain.

It also opens up a possibility to deal with mental forces and disembodied entities, something that many Prophets have done successfully, like Yeshua Ben Yosef when he said, “Get behind me Satan”. It is important to mention that the word Satan in Hebrew

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<sup>11</sup> [The Mind and the Brain: Neuroplasticity and the Power of Mental Force.](#)

means “The Adversary”, a distinct disembodied entity affecting or willing to influence a human mind. The difference is that Yeshua Ben Yosef is aware that this entity even though disembodied, is a real one interacting with him (a fully aware Self-Integrated Personal Human Being). In this situation Yeshua Ben Yosef can successfully eradicate the intrusive thoughts without losing his sense of identity or appealing to a psychiatrist.

Research of this kind suggests that “**The Brain of Melchizedek**” is configured to deal with mental disturbances or afflictions caused by intrusive thoughts, perhaps related to disembodied entities, and it can do so without the aid of drugs or any intrusive treatment. This can be achieved by the person him or her self, ideally in unity with The Creator (for this it must be avoided ruling out *a priori*, the possible help of another disembodied entity) and sometimes it may require the assistance of another human being, (usually a spiritual brother or sister who is connected both to Spiritual Values and the person concerned).

Accordingly one can explore the possibility that many unwanted or uncomfortable mental and psychological conditions can be overcome by the agency of such a human being who has developed the configuration or cognitive map of “The Brain of Melchizedek”. For example, a change of thought patterns associated with doubts, fears, depression, suicidal tendencies and destructive or promiscuous sexual tendencies, can be achieved by a human being understanding and fully realizing the difference between thought patterns, transient internal states like sadness, and True Personal Identity. This may be experimentally explored by monitoring how the neural correlates or brain dynamics of certain areas associated with depression may be changed at will when by the agency of certain thoughts, another area of the brain is actively projecting signals to neutralize or change those brain areas. What is called sadness for example can be described as a condition related to the absence or lack of connection or association to a Spiritual Value like Love or Humour, with specific neural correlates. Sadness disappears in the presence of a Spiritual Value, they are mutually exclusive, like light and darkness, and one manifests in the absence of the other or in a broader sense they are part of a complimentary pair which leads to the understanding of the brain as a metastable system

as described by J. A. Kelso and David A. Engstrom, where sadness becomes rarely or selectively manifested.<sup>12</sup>

The question to explore here is how and under which physical and neuro-genetic conditions human beings are able to connect or associate at will with any particular value at any particular moment to change any particular state. What kind of thought pattern, language and cognitive map is required and how can that be attained in a human life span?

Some of the different outcomes when conducting research under a Spiritual/Material synthetic paradigm would be those ones associated with demonstrating or showing that Mind, Consciousness, Spiritual Values, Personality, Character and Identity play a major role in changing any physical condition in the brain and body at large. This is related to the fact that most of the current materialistic scientific paradigm is still unable to explain Mind/Body interactions, biofeedback or placebo effects.

This leads people and particularly researchers to give credit and put their trust for healing and wellbeing in drugs for example, or other people's opinions, instead of their own spiritual growth and development of mental and internal resources to deal with any condition and sustain a well balanced healthy life.

The situation here is very delicate because some may heal by their mental abilities and internal resources, however, some people may become sick and unwell also by the operation of a mental faculty which acts against them, when they believe with certainty they are going to get sick. This means that a person by the faculty of his or her mind may induce a healing or a sickness in his or her own physical body.

These two opposite results produced by the faculty of the human mind are known as the placebo and the nocebo effect, which have been documented by different sources.

*Placebo* means "I will please," and *nocebo* means "I will harm." The nocebo effect is the harmful health effect created by a sick person's belief and expectation that a powerful source of harm has been contacted or administered. Essentially, patients who are convinced that a medication is

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<sup>12</sup> In their book The Complimentary Nature. (USA: MIT Press, 2006)

bad or useless will often exhibit symptoms that conform to that view.  
(Beauregard and O'Leary 2007, p. 145)

These authors give accounts of research on this topic and the reason why it has been given so little attention and research funding given drug companies and other institutions funding research into drugs as the solution to health and wellbeing.

In this regard Gillett has explored some of the reasons of why for example alternative healing modalities and treatments with a holistic approach have run up against so many walls surrounding the established biomedical community; "*The knowledge of medicine and its practice is dominated by methodologies that are likely to make money for the big players.*" (2004, p. 157)

However, it seems to me that instead of blaming people in drug companies and other institutions, each person could start by addressing their own responsibility in this, as it has been done by those ones standing for a holistic approach to life. As well as opting for a healthier way of living and eating to prevent any form of illness or for countless addictions that many human beings have been trapped into; a good start is a spiritual life that begets insight and wisdom and establishes psychoneurohumeral harmony.

It is important to understand that people buy into this form of healing (drugs) out of their own compromises, fears and vulnerability and these compromises feed the cycle of growth of that kind of research and power structures. However, this situation can be overcome by more altruistic actions of scientists, and a family, or community of people who support this kind of initiative by overcoming their fears and addressing their efforts to grow spiritually and understand the power of the mind through research by participating in scientific communities and networks of people committed to their spiritual growth and the study of the placebo effect for example.

In my view, one of the major needs for expanding in this line of research is the formulation of the appropriate hypothesis. This kind of hypothesis has to be established in order to validate the interplay and link between mental activity based on Spiritual Values and brain activity, manifest by the agency of electromagnetic fields, waves and electrochemical neural dynamics. This is the study of the interplay between a spiritual

being and his or her physical body, between the Spiritual Identity and the physical construct of biological neuro-genetic informational process.

According to this paradigm, even though mental activity as thoughts are invisible and still undetectable and measurable with current technologies, they have a tangible effect in the physical dimension of reality and particularly a direct effect in physical bodies. This is similar to the study of gravity, because no one has measured, boxed or sold gravity itself, even though its effects can be measured in this planetary atmosphere and conditions. So, scientists could start by asking questions like what is the electrodynamic structure of Love as manifest in and between human beings combined with the thought and presence of the Value of Certainty and what are its neural correlates and its effect on health. As a consequence, more humans might discover ways in which, as a species they can be sovereign beings with the capability and power to shape their future realities, the next stage of spiritual and neural genetic evolution, consciously. This means conscious human beings who can cause evolution by co-creating a loving family of human beings, instead of being a random effect of evolution.<sup>13</sup>

One illustration of mind/brain translation is a neuroimaging study by our group in which we measured changes in regional brain serotonin (5-HT) during self-induced states of sadness and happiness in professional actors. When people are asked to recall and relive an emotionally charged autobiographical event, they tend to activate the same brain areas as they would activate during an actual event. One valuable outcome is that neuroscientists can study intense emotions through recollections. (Beauregard and O'Leary 2007, p. 151)

The other side to this ability is that people could choose consciously or unconsciously to propitiate the shaping of violent and destructive tendencies by altering their mental activity.

Such freedom is responsible for the fact that, even though the genome is the same across human societies, some cultures value and foster violence and aggression while other cultures perceive violence and aggression negatively

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<sup>13</sup> Like Yeshua Ben Yosef prescribed humanity to think and ask for, when he said, "Your kingdom come, Your will be done on earth as it is in Heaven" and "the kingdom of God is love and peace and joy in the Holy spirit." His words invite us to be identified and unified consciously in the image and similitude of The Creator. For many that means living in a mode of being associated with deeply Spiritual Experiences in their life by recalling those experiences and meditating upon them and embodying God's Presence.

and rarely employ them. Fortunately, many cultures have also begun to encourage people to move beyond a narrow sense of obligation to one's own kin or social group to an appreciation and compassion for all life, especially other humans because we can so easily identify with them. (Beauregard and O'Leary 2007, pp. 152-153)

Both thought patterns are a possibility for the species and every human being witnesses to a certain degree to these mental patterns and is neurally shaped by them consciously or unconsciously. This is portrayed in the passage where loving and constructive thoughts associated with Michael and his angels are confronted with violent and destructive ones represented by the dragon. This is experienced in the minds of people who are a host to this battle between thought-forms, a battle in heaven.<sup>14</sup>

So many humans have reported a struggle for happiness and spiritual liberation and freedom, a desire to live in a continuous state of inner peace. Some other people report the attainment of that state of inner peace. This struggle for the attainment of inner peace and spiritual liberation has been experienced by many in different degrees of intensity and in different forms of crisis. Some people have been blessed with peace since childhood and others have experienced a Near Death Experience to see the light at the end of the tunnel and come back to be completely transformed by the agency of Spiritual Values, accompanied with a change in behaviour. This needs further investigation and some members of the scientific community have made some initial attempts to shed light on this phenomenon.

Even though Near Death Experiences may be an interesting phenomenon to study along with its implications in the continuation of personal life, disembodied memory and identity, it will suffice for this review to mention its existence and the potential that this body of research holds to the understanding of consciousness. I am more concerned with exploring the possibility of a paradigm for research about the Brain of a Tzadik and the Neural Correlates of a Righteous Experience of Life as a means to making the choice for Peace, the antidote against violent and destructive patterns.

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<sup>14</sup> This reminds me of a passage in one of my ancestral and spiritual family books where it is written, "and there was a war in heaven, Michael, and his angels fought against the dragon and the dragon..." (Revelation 12:7)

At this point, it is important to expand on the fact that some scientists and philosophers have researched and reflected about similar kinds of people. Even though, the term RSME, (Religious, Spiritual and Mystical Experiences) covers some of the aspects of a Tzadik, as mentioned before, there are also certain differences.

One of the cases investigated recently by scientists most resembling the Tzadik, is a Mystic. There are certain attributes associated with such a person that are highly beneficial for the advancement of human understanding of reality, the universe and The Creator. Also they propose that a Mystic is capable of transmitting and sharing in his or her interactions with other human beings Spiritual Values like Love and Truth which are felt and transform other people. Evelyn Underhill remarks,<sup>15</sup> “Mysticism...It is the name of that organic process which involves the perfect consummation of the Love of God...”

This is important because even though it is very recent, it just happens to be the kind of inquiry and research which may contribute to the study of Spiritual Values and their neural correlates.

Mystical experiences can be grouped into general categories; most fall into one of three general types: monistic mysticism, pantheistic mysticism, and theistic mysticism. Monistic mysticism is the mystical experience of sensing that the created universe revolves around a center from which everything issues. In pantheistic mysticism mystics sense that the entire external world is the ultimate power and the experiencer is part of that power. In theistic mysticism one senses the presence of the highest power in the universe or a power from beyond the universe.....Now, from a scientific perspective, the proposition is quite simple. Either there are levels of consciousness that give us greater insight into our relationship to the reality underlying our universe or there aren't. If they exist, we can either reach them or we can't. If we do reach them, we either learn something or we don't.....Why access deep and unusual levels of consciousness? Mystics' explanations depend on their spiritual and other commitments, but there is a common thread. They believe that some fundamental facts about reality can never be correctly understood apart from observations made at this level. If mind is a fundamental character of the universe, as mystics believe, then the investigation must involve at least some experiments of mind-and the only mind mystics can volunteer is their own. (Beauregard and O'Leary 2007, pp. 182-184)

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<sup>15</sup> In her book, Mysticism: A Study in the Nature and Development of Man's Spiritual Consciousness. (1974, p. 184)



The study of the brain of a mystic may have many similarities to the study of the brain of a surfer. Somehow those surfers who have experienced the pipeline or tube, describe that experience as one of unity with the universe, total harmony, perfection. They speak about an “eternal moment” or “now moment” whose effect is permanent in the memory of the surfer to the point that most of them (maybe all) scream the first time that it happens and they are left for days with a huge sense of Joy and Self Realization. After that, surfers are always willing to seek that experience and state of being again.

The problem is that it may be very difficult to study the neural correlates of a surfer in action with the actual technology we now have. However, what about the neural traces, the memories of that moment. Is it possible to find the imprint in the brain of why such an experience is reported to be so powerful and long lasting? The same may apply for those powerful memories and neural traces of those unusual states that Mystics report. When the scientist gets people to remember an experience similar parts of the brain light up as when they are having that experience (See, “Brain Activity During Prayer”, p. 259 of The Spiritual Brain, Beauregard and O’Leary, 2007). This could be an avenue to study some of the neural traces of the surfer in the pipe.

One very important issue here is the fact that only some surfers have been in the tube, while the majority are learning and mastering surfing to the degree that will allow them to ride inside the tube and attain that experience. This learning may take years and usually surfing is a fun thing to do. This means that until a surfer gets to experience oneness with the universe inside the tube he or she derives values from surfing regardless of that possibility. Now, that creates different denominations of surfers, each of them with their own rituals and lifestyles, which are having a nice social and fun experience surfing by themselves or with one another. However, this category of surfers, are in a way still separate (they are veiled to the experience) from those ones who have had the experience of oneness so that the neural traces of the experience of the tube are absent in the brain of most surfers. This category of surfers is the kind which makes a good candidate for a Mystic, especially when considering the fact that surfers also spend long hours in silence and contemplation in nature. This kind of surfer is usually known as a ‘soul surfer.’ Here there is a similar situation describing the difference between organized, institutionalized religious groups and Mystics or spiritually aware people who become the ones who show the way to the experience of “the pipeline” (Oneness, Union

with God). The possibility illustrates the difference between Behavioural Values and Spiritual Values. The neural traces of both categories of values, I propose, are different and provide a sense of initial direction in the study of “The Brain of Melchizedek”.<sup>16</sup>

The experience I have just described for surfers applies in general to any person who has experienced this space of unity whether it is surfing, walking in nature, meditating or any other context. This kind of experience has been treated seriously by a group of psychologists whom Abraham H. Maslow called the “Third Force”. He himself studied what he called Peak-Experiences.

Consider some of the things he has to say in his book, ‘Religions, Values, and Peak-Experience’ about the religious aspects of peak-experiences.

Practically everything that happens in the peak-experiences, naturalistic though they are, could be listed under the headings of religious happenings...it is quite characteristic in peak-experiences that the whole universe is perceived as an integrated whole....perception in the peak-experiences can be relatively ego-transcending, self-forgetful, egoless, unselfish...Recognizing these experiences as end-experiences rather than as means-experiences makes another point. For one thing, it proves to the experiencer that there are ends in the world, that there are things or objects or experiences to yearn for which are worthwhile in themselves...Perhaps my most important finding was the discovery of what I am calling B-values or intrinsic values of Being...In peak-experiences, the dichotomies, polarities, and conflicts of life tend to be transcended or resolved. That is to say, there tends to be a moving toward the perception of unity and integration in the world...The peak-experiencer becomes more loving and more accepting, and so he becomes more spontaneous and honest and innocent...He becomes less an object, less a thing, less a thing of the world living under the laws of the physical world, and he becomes more a psyche, more a person, more subject to psychological laws, especially the laws of what people have called the “higher life.”...The dichotomy or polarity between humility and pride tends to be resolved in the peak-experiences and also in self-actualizing persons...(1964, pp. 59-68)

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<sup>16</sup> Well, on a humourous note the reader may recall from the stories about Yeshua Ben Yosef, a High Priest after the Order of Melchizedek, who lived around 2000 years ago and, while a carpenter instead of a surfer was able to walk on water. After all the question may be raised of whether knowingly or unknowingly he set up a precedent for surfing as a stepping stone to oneness and temporal union with God, an invitation that he extended to Peter as he was sinking while attempting to surf without a surf board.

In the light of Maslow's research and observations we can start to see how the psychology of a Mystic can be described by Peak-Experiences. This also may apply to the study of the brain of Monks, Prophets and Tzadikim.

There has been some research done on the brains of people, such as Buddhist Monks and Carmelite nuns, who seem to fit into the category of Mystics and that are mentioned by Beauregard and O'Leary. I also refer to the studies done by Austin on Zen states of consciousness.

In January 2007, Time Magazine dedicated a special issue to Mind and Body with subtitles "The Brain, A User's Guide". In one of the articles, "How The Brain Rewires Itself" there appears a description of research conducted in both adepts and novices of monks and undergraduates of standard Buddhist meditation. The findings show a clear distinction between the brains of adepts and novices in several interesting different ways (Begley 2007, pp. 64-68).

For example, during meditation, the adepts showed more activity in the areas of the brain connected to compassion, empathy and love and more neural integration and stronger connections between the frontal cortex and limbic system. One very interesting finding is that the areas of the brain concerned with happiness, the left prefrontal cortex generated a pattern which inhibited significantly the right prefrontal cortex associated with negative feelings and moods in a way never before observed by only mental activity. This phenomenon was observed only in the adepts while the undergraduates show similar neural patterns between the left and right prefrontal cortex. This means apparently, that attaining more positive uplifting states and achieving their dominance over more negative states can be enhanced by training.

This study links very nicely with the capacity of the mind to change the brain at will, to heal conditions like the so called OCD (Obsessive Compulsive Disorders) and to work towards an undesirable or a desirable condition (nocebo and placebo effects).

Could thinking about thoughts in a new way affect not only such pathological brain states as OCD and depression but also normal activity? To find out, neuroscientist Richard Davidson of the University of Wisconsin at Madison turned to Buddhist monks, the Olympic athletes of mental training. Some monks have spent more than 10,000 hours of their

lives in meditation. Earlier in Davidson's career, he had found that activity greater in the left prefrontal cortex than in the right correlates with a higher baseline level of contentment. The relative left/right activity can be seen as a marker for the happiness set point, since people tend to return to this level no matter whether they win the lottery or lose their spouse. If mental training can alter activity characteristic of OCD and depression, might meditation or other forms of mental training, Davidson wondered, produce changes that underlie enduring happiness and other positive emotions? (Begley 2007, p. 68)

Because the definition of a Mystic has much in common with that of a Tzadik, it seems appropriate to include the most relevant characteristics of a Mystic according to authors such as psychologist William James, mysticism researcher Evelyn Underhill and philosopher W. T. Stace.

In Varieties of Religious Experience, James writes:

The subject of it immediately says that it defies expression...Although so similar to states of feeling, mystical states seem to those who experience them to be also states of knowledge...Mystical states cannot be sustained for long...Often, when faded, their quality can but imperfectly be reproduced in memory....When the characteristic sort of consciousness once has set in, the mystic feels as if his own will were in abeyance, and indeed sometimes as if he were grasped and held by a superior power. (1902, pp. 281-283)

Notice that James' subjects speak of knowledge instead of just inner experience and, for James, knowledge arises from doing things in connection with other human beings and in the broad context of life at large and a Higher Power.

In her book Mysticism, Underhill writes:

*True mysticism is active and practical, not passive and theoretical. It is an organic life process, a something the whole does, not some-thing about which its intellect holds an opinion...Its aims are wholly transcendental and spiritual. It is in no way concerned with adding to, exploring, rearranging, or improving anything in the visible universe....This One is for the mystic not merely the Reality of all that is, but also a living and personal Object of Love, never an object of exploration...Living union with this One is a definite state or form of enhanced life. (1974, p. 81)*

In Teachings of the Mystics, W.T. Stace distinguished between extrovertive and introvertive mystical experiences:

Extroverted: Nature, art, music, or mundane objects facilitate mystical consciousness. Suddenly, they are transfigured by awareness of the One....Introvertive: The One is found “at the bottom of the self, at the bottom of human personality.” (1960, pp. 20-21)

More could be written about what is a mystic and how he or she experiences life and reality however what is relevant for this review is a description of the main features related to Spiritual Values and their neural correlates and traces.

It is also important that Mystics report the experience of the collapse of a false sense of identity when they experience unity with God, regardless of whether they are Christian, Jews, Muslim, Sufis, Kabbalists or of any other origin. This means that all Mystics share a common experience despite the postulate that Mystics from different religious origins have different experiences and attach different meanings to them potentially associated with different neural correlates. Newberg and d’Aquili’s research intended, amongst other things, to find an invariant across the different religions regarding a common experience which they called the Absolute Unitary Being experience. (1999)<sup>17</sup>

The common and fundamental sense of unity with the whole and life itself makes Mystics ideal candidates to contribute to a unified humanity as One Family under One God and Universe. This is because they have transcended their own boundaries and informational constructs of self and biological identity and they can be regarded as sharing a new category of experiencing reality (notice how this goes beyond survival based values).

A crucial question to ask in undertaking the study of Spiritual Values is “who and where these Mystics are?” It will emerge that they show a different functional biological modality as a result of their spiritual awareness, and are more likely to present different physiological symptoms and signs associated with heart rhythms and brain activity.

In this respect, some researchers, scientists, philosophers and theologians have opened the way to study mystical experiences. One of them is zoologist Alister Hardy (1979)

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<sup>17</sup> A critique presenting the limitations and complimentary views on Newberg and d’Aquili’s work has been done by Anne Runehov in Sacred or Neural? - The Potential of Neuroscience to Explain Religious Experience. (2007)

who collected examples of RSMEs for fifty (50) years to study their similarities across cultures. His view of life and his research work was coloured by a systemic view of animals and humans whom he regarded as living wholes with properties far from evident in reductive chemical and physical descriptions. For him mind and brain were different and spirituality was a vital phenomenon associated with human beings. It could be interesting to find out more about the criteria he used to identify Mystics and how he studied them for the purpose of further studies on Mystics, Spiritual Values and what I have called a Tzadik.

Philosopher and theologian Rudolph Otto refers to the term “numinous” a sort of RSME that is present and contributes to the development of religious traditions. By that he meant the sense of presence different than one self and all encompassing with the associated experience of awe. He writes in “The Idea of the Holy” about the “numinous” that underlies religious experience as reported by Mystics and religious people of different traditions and emphasises the fact that without this presence (the “numinous”) it would be pointless to talk about religious experience:

All ostensible explanations of the origin of religion in terms of animism or magic or folk psychology are doomed from the outset to wander astray and miss the real goal of their inquiry, unless they recognize this fact of our nature - primary, unique, underivable from anything else - to be the basic factor and the basic impulse underlying the entire process of religious evolution. (1971, pp. 6-15)

Apart from the support volunteered by Dalai Lama and Tibetan Buddhist monks and the efforts of scientists like Richard Davidson to inquire about the neural correlates of meditation and its effects on health and well being, other scientists are moving in this direction and line of research. Recently a research has used a group of Carmelite Nuns as appropriate candidates for Mystics.

Even though these are nuns who are associated with a religious institution or religion, they have a unique spiritual lifestyle, spend hours in prayer and contemplation to achieve mystical union (*Unio Mystica*), so they may qualify as Mystics when they have achieved union, something difficult to validate given that Mystics, according to the research team,

are very difficult people to find in the twenty first (21<sup>st</sup>) century and particularly when one seeks those willing to volunteer in neuroscience research.<sup>18</sup>

Beauregard and his doctoral student Vincent Paquette, using QEEG (quantitative electroencephalography) and fMRI were faced with challenges concerning the need to acknowledge the integrity of the nuns and their need for a respectful and safe space for them to enter states which are sacred and a valid experience of contacting God.

The limitation of these experiments is that these scientists are only measuring the regions of the brain active in those moments of a Mystical Union as reported by the nuns, however the experience itself and its origin is unknown. To examine that would require radically new knowledge and technology.

Note that a Mystical or Spiritual Experience is different from being continuously an embodiment of God's Values. The question here is, if a mystical experience may lead a human being to the continuous embodiment of God's Values, and constant communication with The Creator. Can any human understand what might be meant by God's Spirit finding a voice in the world, by being unified in consciousness with a human being?

This kind of research had many objections both from the neuroscientific community as well as religious people who feel challenged or disappointed in their expectations by its outcome. However, the research neither validates or invalidates the existence of God nor is it meant to conform to any scientific or religious dogmas about God. It is conducted to find out about neural states related to mystical experiences.

...we wanted to know two things: whether brain activity during mystical consciousness is localized in the temporal lobe, as some have argued, and whether mystical contemplation produces brain states not associated with ordinary consciousness. (Beauregard and O'Leary 2007, p. 265)

Some of the important findings of this kind of study are:

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<sup>18</sup>It is important to note as I have mentioned before, that some Surfers would also be good candidates for Mystics, especially when we consider the fact that surfers also spend long hours in silence and contemplation in nature. Surfers have also reported a sense of unity, and an experience of timelessness and spacelessness.

- The absence of beta waves (their presence would indicate a fake of the experience because they are associated to strenuous conscious activity).
- Very little theta wave activity which indicates typical deep meditative states.
- Humans can make themselves more receptive of RSME by taking specific actions like meditating, fasting, drumming or the intake of some plants or teas as portrayed in different cultures.<sup>19</sup>
- The expectation or demand on one's person to experience a mystical union seems to generate mental noise, which interferes with the experience itself. Basically the harder a person tries to attain a mystical union the more difficult it gets.
- Similar areas of the brain become active when the experience is remembered; however different areas of the brain were active during mystical union, suggesting that the experience itself is different in quality than just recalling the memories of the experience. The nuns confirmed this. (Beauregard and O'Leary 2007, pp. 267-276)

Many brain regions were involved in mystical experiences apart from the temporal lobes including the inferior parietal lobule, the visual cortex, the caudate nucleus and left brain stem as well as others in general showing significantly more theta activity in the mystical condition when compared to the control condition for the areas of the insula, the right inferior and superior parietal lobule, the right inferior and middle temporal cortices, the anterior cingulate cortex and medial prefrontal cortex.

All of these findings are still based on weak evidence and they need more experiments to be substantiated, so it is premature to draw any conclusions. The findings were based on two types of studies using the Hood's Mysticism Scale which included a variety of reports about the Love of God, mental imagery and hearing music. Study one was to determine which areas of the brain were active during a mystical experience using fMRI. Study 2 was under the same experimental conditions recording brain waves using QEEG.

Beauregard and O'Leary, suggest that the studies show two valuable things:

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<sup>19</sup> However this must be in presence and unity with the Spirit of The Creator to be called a Godly Mystical Union instead of a mere mental or subjective state.



The results of the two studies, taken together (QEEG and fMRI), dispose of the notion that there is a God spot in the temporal lobes of the brain that can somehow “explain” RSMEs. The results of our fMRI and QEEG studies suggest that RSMEs are neurally instantiated by different brain regions involved in a variety of functions, such as self-consciousness, emotion, body representation, visual and motor imagery, and spiritual perception. This conclusion correlates well with subjects’ descriptions of RSMEs as complex and multidimensional. (2007, p. 274)

These findings are quite different than Ramachandran’s findings about the God Spot yet also represent a partial and limited description of mystical experiences and their neural correlates. Though these nuns may be Mystics it remains inconclusive in that the use of mental imagery and music may activate areas of the brain incidentally related to an experience of union with God, which are primarily associated with the emotional, mental and contextual tool-kit of that particular person as part of their experience. Until these findings can be validated with groups of Mystics from different traditions and walks of life it is important to be careful with premature conclusions.

What is more, the process of accessing the state of unity and unity itself are two different things.

The thoughts that have been explored to date seem to show a possible complaint about much neuroscientific work in that it too readily accepts the promissory note offered by materialism without really opening itself up to the kind of thought that would explore RSMEs in an open-minded fashion. That more receptive approach is framed in accordance with the possibility that a brain with the characteristics of The Brain of Melchizedek is genuinely open to forces and communications without being limited to the terms dictated by the needs of biological survival. So far a number of lines of thinking and research have been encountered that take that possibility seriously and are opening neuroscience to radical new theses about the brain and RSME.

The present study opens the road for similar kinds of undertakings to find out more about what is a mystical experience; who can be considered a Mystic and what kind of brain structures, physiological signs and symptoms can be associated with such a person’s experience of reality. More importantly, to me these studies open the road to the exploration and understanding of a **Tzadik** and **The Brain of Melchizedek**.

# Chapter 3

## Contrasts and Comparison between Neural Conceptions of RSME

### 3.- A Review of the “God Module”, other theories and paradigms and some new definitions

#### 3.1- The “God Module”

One of the contemporary scientists who are studying the Neural Basis of Spiritual and Religious experiences is V. S. Ramachandran, whose studies coincide in many ways with Metzinger’s views on Self and Self-Models.

In assessing his view I will briefly explore the development of an evaluative system in the orbito-frontal cortex and its intimate relationship with the limbic system in the process of emotions, both in verbal and non-verbal communication.

I will also introduce a series of scientific theories and hypotheses showing the limitations of Ramachandran’s approach. These findings may help in understanding the dynamic relationship between the Spiritual and Physical Domains. I will mention briefly a distinct mode of physiological functioning termed Psychophysiological Coherence linked to sustained positive emotions in the human being.

I will first reiterate, with Melchizedek, Yeshua Ben Yoseph and Descartes (and with most writers in the tradition of Western Philosophy) that the order of consciousness akin to my existence requires no further proof or scientific verification. I am endowed through revelation with an insightful, intuitive and unshakeable experience that, along with my rational and scientific capacities, informs my human consciousness of my Spiritual Identity which means I AM. However, in addition I consider of immense value to communicate to my fellow human being via a Spiritual Scientific Synthesis the

possibility to enter this order of existence and its neural implications. This I will call, The Brain of Melchizedek.

This is related to shaping consciously and in unity with The Value Giver of Life, the human body's neural pathways to fit it for the broadcast (sharing and spreading through interpersonal contact) and expression of the highest form of values. These Spiritual Values are both the guarantees for the survival of the human species as well as the survival of his or her Spiritual Being, Character and Identity in eternity.

In Phantoms in The Brain (1998), Ramachandran and his colleague Sandra Blakeslee devote Chapters Eight (8), Nine (9), and Twelve (12) to possible scientific explanations for the experience of spiritual revelation, unity with God, oneness with the universe, enlightenment and the phenomenon of Self, Personality, Character and Identity.

Their attempt to build a neuroscientific approach to religious experience and the spiritual dimension of a human being is valuable. First, it acknowledges the relevance and importance of these areas of human existence. Second, it inquires about a sense of oneness or unity with life and the possibility of the existence of a relationship to The Creator, at least from a neurological perspective.

Because their experience is limited to the field of neuroscience and the fact that part of this undertaking is relatively new to science, it seems that Ramachandran and Blakeslee have adopted an approach to the study of this phenomenon from the perspective of the effects (neural activity) in some areas of the human brain which leaves out the origin or causes (Spiritual Values and associated electromagnetic fields) of this experience. Therefore, the causes of religious and spiritual experiences still remain a mystery to science.

Some of the dimensions associated with these subjects of research are very difficult to validate scientifically and may lead the most prominent scientists, with the best intentions, to a view which reduces the phenomenon of consciousness to a collection of mechanical interactions between neurochemical components or energy systems.

However, this undertaking opens new frontiers for more inclusive, holistic and systemic approaches with the possibilities to evolve or change the understanding and experience of life, the possibility of a Scientific Spiritual Synthesis and the exploration of the physical universe with a spiritual perspective. Regardless of how each human being conceives his or her relationship with The Creator and the Universe, Spiritual Values and their expression are taken into consideration in such a paradigm of research.

Ramachandran is to be commended for entering such a controversial and difficult area of research and the present analysis is intended to lay the foundations for further research in the area of Spiritual Scientific Synthesis, by attempting to clarify what the scientist is indicating or intending to quantify in the spiritual realms (thought of as cause or source) and what is being measured in the physical universe (effect). On that basis we can undertake the exploration of the neural traces which are the product of the feedback between two dimensions of life, existence, and consciousness.

Before we do that let's briefly explore what some of the most prominent psychologists had to say about this controversial area of research, namely Spiritual Values, Self and Personality.

Most of the theories about personality for example rely on a biological description based on personality traits or behaviours without any sense of a Spiritual Identity. This is the case of Freud with his description of the structure of personality which is composed by the identity, the ego and the superego where the person's behaviour is the result of the interactions between the instincts, the decision making centre and the moral aspect of personality all regulated by pain and pleasure, survival and a social sense about what is right and what is wrong.

B. Skinner on the other hand denies the existence of an internal personality structure (such as identity, ego and superego) just because they are unobservable and, like J. B. Watson, is indifferent about what goes on in the inner life of human beings and its associated cognitive processes. For Skinner behaviour is determined by the environment and as he puts it, "There is no place in the scientific position for a self as a true originator or initiator of action." (Skinner 1974, p. 225)

Though for another person like Alfred Adler social environment plays a very important part in shaping personality he does acknowledge a sense of self thereby moving away from a theory centred on sexual conflicts like that of Freud. He spells out an ‘Individual Psychology’ where, “The goal of the human soul is conquest, perfection, security, superiority.”<sup>20</sup>

Around the time of Sigmund Freud it was only Carl Jung who theorised the existence of the collective unconscious which, he said, every person shares with all of humanity and contains the “whole spiritual heritage of mankind’s evolution, born anew in the brain structure of every individual.” It is important to note that for Jung the sense of self is broadened to a sense of collective belonging through archetypes which are images and thought patterns or thought forms with both universal meaning and emotional content and the expression of those archetypes can be observed in symbols from many different cultures presenting strong similarities showing somehow the unified wholeness of the self. Jung was reluctant to be followed by anybody and rather encouraged people for self-realisation as he puts it nicely,

I am not a Jungian...I do not want anybody to be a Jungian. I want people above all to be themselves. (Weiten 1995, p. 481)

In Jung’s work we can start to see the emergence of a sense of spirituality and connectedness preparing the road for the humanistic theories placing emphasis on self-actualisation (which came around thirty years later) and establishing the link between people’s need to fulfil their potential and psychological health.

In my observation it is in Maslow’s “Psychology of Being and Peak-Experiences” that Self Expression, Self Realisation, Identity and Personality are for the first time, in psychology, associated with Spiritual Values as characteristics of being also seen as the Being-Values which, as he puts it, “are perceived as ultimate and as further unanalyzable...They are paralleled also by the characteristics of selfhood (identity) in peak-experiences...” (1964, p.91)

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<sup>20</sup> As quoted in Themes and Variations 3/e by Wayne Weiten, (1995) p. 483. Also see this book for further referencing to the authors I have mentioned in the last and following paragraphs.

After this brief overview of a prominent strand of psychology, I am in the position to lay out from the perspective of a Tzadik, Mystic or Prophet a set of statements that can be considered as baseline tautological<sup>21</sup> assumptions for a Spiritual Scientific Synthesis and then ask what kind of investigations in neuroscience and cognitive science would reveal something about the realities taken as fundamental in those assumptions.

Though these assumptions are tautological from a perspective of a Tzadik without the need for farther proof I will briefly highlight the work of Philip Hefner, Nancey Murphy, George F. R. Ellis, and John Polkinghorne who are amongst others proposing a more robust view about God's uninterrupted participation in the creative order. In their writings chaos theory has been offered as one possible avenue for a new view of divine action which moves away from the idea that God creates in the beginning and then obeys the rules and laws of nature restraining from intervening from His or Her own creation. This hypothesis and thesis support my tautological assumptions.

In that respect Nancey Murphy has presented in her paper a starting point to explain the participation of God in people's lives at the human level of the universe aiming for the reconciliation between Deism and Occasionalism. She believes her proposal does so when she says,<sup>22</sup>

The central goal of this paper was to present an account of divine action that steers a course between deism and occasionalism. I believe that this proposal does so. God's action in every event is guaranteed, and so is some measure of control over the course of events such that special, even extraordinary, acts are possible. At the same time, God's decision to cooperate with created entities rather than to override their natural characteristics means that entities above the quantum level, with their built-in capacities for action, are allowed by God to use them - natural casual relations are not denied. It is this "letting be" that provides an explanation for the fact that the universe does not appear to manifest the purposes of an all-wise and all-powerful God in all of its details. (1995, p. 353)

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<sup>21</sup> Tautology: "a statement that is necessarily true...to say something is 'adequate enough' is tautology...a proposition which is always true." (Free Online Dictionary of Computing, 2009)

<sup>22</sup> In her paper, "Divine Action in the Natural Order - Buridans Ass and Schrodinger's Cat." (pp. 325-357) In, Chaos and Complexity: scientific perspective on Divine Action, Robert J. Russel et al., - Editors.

George F.R. Ellis in the same book supports Murphy and argues against the charge of the capriciousness of acts of God by introducing the idea of a hidden and unusual domain of response of matter to life where matter responds “directly to God-centred minds through laws of casual behavior...”<sup>23</sup>

Thus, the extraordinary would be incorporated within the regular behavior of matter, and neither the violation of the rights of matter nor the overriding of the chosen laws of nature would occur. Thus, the laws and the nature of physics are respected. (Ellis 1995, p. 386)

Their work presents us with the possibility that humans can be agents for God’s intervention in the world through healing, revelation, and the spiritual transformations which lead to a cognitive map for a brain which is attuned with the universe in large (both micro and macro levels), a person in unity with God’s Consciousness.

Concerning spirituality, spiritual transformation and healing Philip Hefner<sup>24</sup> quoting psychologist Mihaly Csikszentmihalyi is telling us that spirituality is presenting us with how “consciousness is organized” and how it facilitates a coherent understanding and comprehension of our life experiences supporting Spiritual Values, appropriate lifestyles, constructive intelligence, and moral behaviour. For Hefner the spiritual and the material are complimentary pairs where spirituality can be accepted tautologically with the understanding that without it human beings would live without meaning and inspired visions, “Spirituality refers to the organization of our consciousness that makes richness of life possible, for individuals and communities.”

On that note we can move on to my assumptions about Spiritual Values, Personality, the existence of God and His or Her participation in the physical universe particularly through God-centered minds, like Mystics, Prophets and Tzadikim.

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<sup>23</sup> See 4:4 An Alternative Domain of Action p. 386 in his paper, “Ordinary and Extraordinary Divine Action: The Nexus of Interaction.” In, Chaos and Complexity: scientific perspective on Divine Action, edited by Russel et al. And also quoted later within this thesis on Chapter Three 3:5.

<sup>24</sup> In “Spiritual Transformation and Healing: An Encounter with the Sacred.” In, Spiritual Transformation and Healing - Anthropological, Theological, Neuroscientific, and Clinical Perspectives. Editors Koss and Hefner. (2006)

### **Statements or Assumptions:**

1. A human being is a combination of an animal and a spiritual being and can only become conscious of God's Mind and "Voice", when the proper spiritual conditions are fulfilled in his or her life. This is taking into consideration both the ideas previously presented about the theory of personality as portrayed by the different psychologists and their complimentary views of behaviour and spirituality as well as the different theses and hypothesis presented by Murphy and Ellis about the existence of God and God's intervention in the world through God-centred minds.
2. These conditions (if note is taken of the work done with Mystics) should enable a cognitive map that gives access (with the brain and heart working in unison) to a global awareness and perception of the dynamic interplay between the Physical and the Spiritual Domains. This view is supported by the ideas of Hefner previously presented about spiritual transformation and spirituality in general.

Cognitive science and neuroscience may contribute to humanity by identifying which lifestyles, diets, activities, qualities, states of being and thought forms are more conducive to such cognitive maps, where the existence of a Universal Father-Mother source of all Love and Spiritual Values is revealed personally to the human being. However cognitive maps associated with the realization that the physical body is just a vehicle for the embodiment and expression of Universal Values (or God's Mind and Qualities) need careful investigation.

My preferred verbal approximation to the Value Giver, Creator and Sustainer of all life is both Father and Mother meaning the cause of my existence, provider, sustainer, comforter, protector and nurturing source of my being. In my Father-Mother's Plan every person has the possibility to manifest his or her full potential, which ideally requires a healthy body to embody and express the Spiritual Values and Qualities associated to The Creator. These I will call the Highest Qualities or Spiritual Values.

This is where this analysis begins, in the full acceptance of the reality of my existence, my Father-Mother's existence and my personal relationship with the source of my



existence forever and ever, in eternity. Amen and so it is! This means the Knowledge of I AM, and Who I Am! I am the scientist-student of life who acknowledges his existence and the existence of his Creator, both as one indivisible existence, without any further scientific proof. I Am Love, therefore I Love, therefore I am.

It is also important to notice that the possibility of knowing The Creator, The Source of all Values and Life (Value and Life) in a personal way requires the existence of Personality, Character and Identity, at least human identity and The Creator's Identity.<sup>25</sup>

Notice that finding a scientific proof of this relationship would require a proof for the existence of the scientist, the person who knows The Creator, and The Creator (and it can claim that that requirement is unnecessary according to the Cartesian starting point for all doubt and proof). However, even though a human may exist as well as The Creator, the personal relationship between the human and The Creator may be veiled to the mind of the human as might any actual relationship such as that with one's birth mother if one is adopted and has never been told.

From now on my Dear Reader welcome to the scientific world and paradigms of the Kingdom of Melchizedek and The Universe of Michael.

An appropriate starting point is to highlight the reductionist views and similarities of the approaches of both Ramachandran and Metzinger.

Even though Ramachandran acknowledges the existence of a Creator whose scientific proof may be unnecessary and apparently impossible, to him unity with others and life (oneness or enlightenment) implies the dissolution of a personal identity or self, the dissolution of *maya* in Hindu religion.

What is the nature of the self? As someone who was born in India and raised in the Hindu tradition, I was taught that the concept of the self—the “I” within me that is aloof from the universe and engages in a lofty inspection of the world around me—is an illusion, a veil called *maya*. The search for enlightenment, I was told, consists of lifting this veil and realizing that you are really “One with the cosmos.” Ironically, after extensive training in Western medicine and more than fifteen years of research on neurological

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<sup>25</sup> And in some cases the Identity of a message bearer or bringer of Light.

patients and visual illusions, I have come to realize that there is much truth to this view— that the notion of a single unified self “inhabiting” the brain may indeed be an illusion. (Ramachandran and Blakeslee 1998, p. 227)

The realization and acceptance of my existence in eternity and the realization of The Creator’s existence required for conscious awareness of oneness and the dissolution of boundaries rather than a matter of a distinct self “inhabiting” the brain, underpins the Living “I AM” who expresses itself through the brain and the body. In his limited view Ramachandran likens the “illusionary self” view to a condition in the brain which interferes with the experience of unity, and likens abandoning it to a return to the state of the bee who dances without choice. The bee can be likened to a “zombie” who has no conscious understanding of the order of which it is a part and to which it is attuned and of which it is as aware as it needs to be to do what it does. A zombie only lives according to internal physical processes without any reflection or understanding of what is going on in or around him or that which holds him in being.

It’s known that bees engage in very elaborate forms of communication including the so-called bee waggle dance. A scout bee, having located a source of pollen, will travel back to the hive and perform an elaborate dance to designate the location of the pollen to the rest of the hive. The question arises, Is the bee conscious when it’s doing this?...I would argue that it is a zombie. In other words, even though the information is very elaborate, is irrevocable and held in short-term memory, the bee can only do one thing with that information; only one output is possible—the waggle dance. This argument is important, for it implies that mere complexity or elaborateness of information processing is no guarantee that there is consciousness involved. (Ramachandran and Blakeslee 1998, pp. 243-244)

On that subject Nancey Murphy and Warren S. Brown have expanded on the role of consciousness in their critique to materialism, functionalism and reductionism by highlighting the primary role of consciousness in providing “flexibility in modulating one’s behavior that is not available to more primitive organisms.” (p.219).<sup>26</sup> For them that means that a conscious organism knows about its environment however that organism, “also knows that it knows”, something that they affirm is intrinsically related to subjective experience and some of the qualia that play a casual role in the behaviour of the organism.

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<sup>26</sup> In, Did My Neurons Make Me Do It? - Philosophical and Neurobiological Perspectives on Moral Responsibility and Free Will. (2007)

By contrast with the zombie and even with the bee, I am only aware of the boundaries and how to overcome them because I am aware of who I am and how I relate to those boundaries, of my place in the order of things (an awareness the bee lacks). It seems that just as the bee is attuned to its limited reality without conscious reflection or appreciation of it I am attuned to mine while genuinely grasping the complexity and richness of that reality with the capacity to verbally articulate and report something about it.<sup>27</sup> It then looks plausible that a person who chooses to do God's Will, will never return to zombie state, because he or she knows the difference between the two (having or lacking choice), even though he or she only acts according to the will of God (This is his or her only choice). By contrast when a human being still identifies him or herself with biological process (neural activity in space-time) he or she is unlikely to be aware of The Creator's existence so that his or her Spiritual Identity is still a potential reality (so he or she is like Ramachandran's zombie bee subject to forces of nature, biology and social conditioning).

It can be said that the person concerned is unalert to Character, Identity and Personality in any sense in which the person might be spiritual and survive in eternity and is limited to an illusion created by a distorted cognitive map of self, based only on biological roles, body features and movements. The dissolution of that map takes place when the human consciousness is affected by the agency of Spiritual Values articulated – made conscious or able to be reflected upon and explored with the mind whose energetic counterpart in the physical reality may register as electromagnetic or light waves and fields.

Even though the main subject of this analysis is the neurobiological implication of Spiritual Values, it is important to mention that memories exist as an interference pattern with waves and fields. "Several features of brain activity have prompted connections to quantum physics" (Jibu et. al 1994).<sup>28</sup> Electromagnetic and light waves as well as fields may have a direct and significant influence in brain processes and therefore perception of reality for a human being.

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<sup>27</sup> This implies a choice to reveal who I am to others; it is my prerogative to remain concealed in unity with God.

<sup>28</sup> "Quantum optical coherence in cytoskeletal microtubules: implications for brain function" by Mari Jibu, Scott Hagan, Stuart Hameroff, Karl Pribram and Kunio Yasue.

Michael A. Persinger developed a helmet which induces a “God experience” by stimulating electromagnetically certain areas of the brain, in this regard Ramachandran and Blakeslee wrote:

Imagine you had a machine, a helmet of sorts that you could simply put on your head and stimulate any small region of your brain without causing permanent damage. What would you use the device for? This is not science fiction. Such a device, called a transcranial magnetic stimulator, already exists and is relatively easy to construct. (1998, p. 174)

The two important things to note here are that the brain is capable of providing an experience of unity and bliss and that this may be triggered by electromagnetic fields. It must be recalled that intense electrical activity in the brain of people with epilepsy may also induce this kind of unitary and blissful experience.

Also note that, in discussing people with epilepsy, Ramachandran acknowledges<sup>29</sup> the possible existence of God, “One [explanation of religious experience] is that God really does visit these people” (1998, p. 182). His explanation of the religious experience of one of his patients named Paul relies on the presence of a seizure however he notes that the possibility of divine revelation can neither be proved nor ruled out by empirical evidence. How and why did he reach his preferred explanation? What about the detection of certain kinds of electromagnetic fields or waves in the presence of a person’s Spiritual Experience or a fully realised human being and its neural correlates? If the scientist were to study a Spiritual Being in human form, he or she could measure the differences in their specific manifested electromagnetic fields, brains and neural processes and thereby derive evidence of a sort, although with the current scientific knowledge and technologies there is a limitation: How would the scientist know which aspects truly reflected spirituality and which are a mere brain disturbance? This may only be distinguishable by finding different electromagnetic and wave signatures associated with Spiritual Values, certain brain states, heart patterns and bodily functions.

Ramachandran and Blakeslee study religious experience, self and identity and their neural bases in patients with seizure or other memory anomalies. However, they leave

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<sup>29</sup> It seems ironic or humourous the difficulties that Ramachandran faces through neuroscience in discerning cause and effect (*maya*) from God’s Presence, it is as if *maya* is telling him that God is to be found in our beings instead of in a laboratory experiment with the aim of decoding *maya* to find God.

unanswered some fundamental questions related to ordinary spiritual and religious people as well as fully realized spiritual human beings.

An example related to the perception of identity is the person that I am while occupying a physical body. My identity is who I am as a real person (a spiritual being) instead of my physical body (a vehicle of expression), therefore I can say, “I Am the Love of God expressed in music” instead of saying “I Am a musician”, which can be seen as a mechanically functioning body just performing. How can these be realised and verified as distinct cognitive states of self identity? The phenomenon of Character and Identity is explored and perhaps better explained in Conceptual Blending Theory.

Some of the fundamental questions that can be explored by a scientist are; how and where perception of identity changes in the brain when a human being realises his or her Spiritual Identity and witnesses to his or her consciousness to the dissolution of the biological identity (Self-Model)? How can synchronicities<sup>30</sup> be explored as a functional pattern recognition skill in the human brain? What is the power of prayer and meditation and which cognitive maps in the brain does it activate and how? What needs to happen in the brain-heart relationship of a human being in order to remove conflicting perceptions of reality by a scientist with a different paradigm? To address these questions in an open-minded way requires a researcher to combine or conceptually blend very different areas of thought that reach beyond the standard paradigms of intra-organismic neuroscience.

Conceptual Blending or Integration draws on considerable evidence that reason is encoded, it appears says Fauconnier in Conceptual Integration:

The neural architectures that evolved to produce perception, sensation, and bodily movement are at the heart of what we experience as a rational inference, conceptualization and meaning construction...C.I. is a basic mental capacity that leads to new meaning, global insight, and conceptual compressions useful for memory and manipulation of otherwise diffuse ranges of memory. It plays a fundamental role in the construction of

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<sup>30</sup> (meaningful events which are connected in time and space revealing an implicit order in reality which would be attributed to chance without all the information which reveals the meaningful pattern. An example is when we spontaneously remember somebody that we haven't seen for a while and instantly we receive a phone call from that person.)

meaning in everyday life, in the arts and sciences, in technological development and in religious thinking. (2001, p. 1)

It is important to mention that Blending is intimately connected to a set of psychological and neurobiological properties due to the constant shift happening in the brain's highly interconnected cells or neural pathways.

This means that there is a relationship between the emergent properties in the blend and the activation patterns of neurons in the brain. This is more than just having access to a different domain (target) from a source domain in metaphorical mapping, because in only having access the brain has yet to create a neural pathway to embody the experience continuously. Having a Spiritual Experience is different than embodying Spirituality.

Reporting a Spiritual Experience of "Oneness" with the universe that one has at a given point in time is different than "manifesting The Love of God continuously" in actions and words like, "I Am The Love and The Light of God" implying an Identity and an ongoing way of being rather than just a transient experience.

Identity and Character can be complex phenomena to describe or validate. Conceptual Integration Networks serve the purpose to emphasize Frames (Simplex, Mirrors, Single Scope, Double Scope).<sup>31</sup> Other types of integration network also arise to emphasize either the Blending of Character and Frame or the Blending of a Character with another Character.

When a person unifies in a mental space with for example Jesus, Buddha, a loving Grandmother or the Universal Father-Mother, a fusion of characters may emerge as a consequence of an integration network. This means that a musician, for example, lacking the qualities of Love and Harmony may get to embody those qualities by unifying in a mental space with any spiritual or human being embodying those qualities.

Some of those neural activations come from the forces which are affecting human beings through the environment, or from what people share and how people interpret those

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<sup>31</sup> I expand on this subject in Appendix B.

messages from bodily states, purpose and many others. Some are related to culture, personal experience, biological evolution, while others could be related to a sense of self and identity based on Spiritual Values and ultimately God Consciousness and Global Awareness. This sounds like a very holistic form of neural integration by contrast with the more reductive views for instance those based on transient states in a God module part of the brain.

In commenting on the nature of religious experiences, Ramachandran and Blakeslee remark:

But does this syndrome imply that our brains contain some sort of circuitry that is actually specialized for religious experience? Is there a “God Module” in our heads? And if such a circuit exists, where did it come from? Could it be a product of natural selection, a human trait as natural in the biological sense as language or stereoscopic vision? Or is there a deeper mystery at play, as a philosopher, epistemologist or theologian might argue? (Ramachandran and Blakeslee 1998, pp. 175-176)

In their approach, the complex phenomena of life and the delicate fabric of reality is reduced to brain activity. Thus a weakness of the approach that Ramachandran and Blakeslee espouse is that it has its roots in the desire to keep all their discussion confined to terms related to biological and brain sciences and they lack a definition and any clear distinction between Behavioural Values and Spiritual Values. They simply talk about religious experiences and a sense of self and identity based on neurochemical interactions in the activation and deactivation patterns of different areas of the brain and therefore subsequently their research is confined to a conception of consciousness and spirituality as aspects of phenomena arising from the interactions of the material dimension.<sup>32</sup>

So here is the greatest irony of all: that the self that almost by definition is entirely private is to a significant extent a social construct — a story you make up for others. (1998, p. 254)

The even more radical possibility is that self is different than a social construct and pertains to a lived reality in the context of an integrated world full of forces that are

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<sup>32</sup> This creates confusion between information processing and consciousness. From where I am, the totality of consciousness, God’s Consciousness lays the foundations and supports the information processing of different living systems and expressions of life forms. It defines the perceived boundaries of the elements of expression of His Being, The Universe.

difficult to accommodate in reductive scientific thinking limited to the terms of biology and individual survival - that lived reality is the true basis of identity and the being of a person.

Metzinger asserts something similar about self and identity (rather than self as truly spiritual being), something which I will expand on later in this chapter.

I will propose that the proximity to God's Consciousness by any living system is established by field's resonance, particularly, Spiritual Values fields. These fields must have a neural trace in human brains. However part of that neural trace may be perceived as random thoughts by humans before these human beings become informed about how to articulate aspects of their spiritual lives or are fully realized in their Spiritual Identity and are able to discern consciously "God's Voice" and its associated field of presence.

Finally my Dear Reader I will leave you with some considerations and questions:

- Can Love or Happiness be ever lost to the brain? Are there in the brain structures and mechanisms which enable the creature to experience Love with or without the mediation or memory systems like declarative memory. Which would mean that when we remember loving moments we are invoking areas of the brain based on biographical memories which is different than when we experience Love for the first time or anew. So are we able to Love because we remember the Source or Origin of Love (perhaps through neuro-genetic feedback systems) or because we tap into the Presence or field of Love which can both be associated or dissociated from an object or memory of Love. Perhaps these two options are complimentary opposites?
- Is there anything like the "Love Centre" that can be permanently damaged? This would mean that there could be structures that allow the experience of Love localised in one area of the brain subject to damage and loss or is it a consequence of a large-scale integration and synchronization of many areas of the brain or perhaps a holographic property of the brain tied up with quantum events, hence a very reliable system.



- What about a “hate centre”? Can the same questions for Love be posed for a “hate centre”? Or is it that the experience of hate is more connected to the fight and flight centres of the brain for survival purposes and therefore more localised.
- Can a person be permanently switched on to hate because of a certain kind of brain damage? Which should lead us to investigate if this kind of damage can be compensated by stimulating the experience of Love without condemnation for the person who is displaying a violent behaviour because of that damage.
- Can a person experience Love and hate simultaneously or are these mutually exclusive? That would mean that if Love and hate are mediated by different structures or different kinds of dynamical processes they could co-exist in a form of metastability with tendency to one or the other according to the environment and conditions of that brain.
- Is the experience of hate or Love a random one or is it a choice? This takes us to the realm of the hard problem of consciousness and free will, and the responsibility of the choices we make that may lead to different cognitive maps in contrast with the *Zombie Bee*.
- Why are some people in different circumstances blind to that choice like a *Zombie Bee*? This question takes us into the realm of Spiritual Awakening and Spiritual Experiences as well as into the realms of genetic information and its neural genetic implications.
- Is Ramachandran referring to Spiritual Values when he uses words like Certainty, Unity, Love, Truth, Humour? What are the neural correlates of the experience of the Spiritual Values called by these words, in the brain of different people with different spiritual propensity? This needs to be investigated in the light of peak-experiences, synchronicity and perception of reality, pregnancy and Love, and genetic propensities towards the cognition of Love.
- Could it be that a seizure causes a Spiritual Experience or is a Spiritual Experience quite different from (even though it resembles) a seizure? Here we can address the difference between Behavioural Values and Spiritual Values where Behavioural Values are associated to the physical experience of the sacred, like pleasure and joy (as in the brain activity in patients with

epilepsy) in contrast with the Presence of Love and the sacred, associated with being Love and the embodiment of Values like Truth, Certainty and Unity with a cognition which transcends dichotomies and polarities (like extreme joy or extreme sorrow as in epilepsy) and manifests a synergy emergent of the complimentary dynamics of opposites.

- An action of Truth is motivated by Truth, an action of Love is motivated by Love, and an action of Unity is motivated by Unity. So, where are the neural traces of actions based on Values and where are the encoded neural mechanisms to the detection of those Values? This question also leads us to the investigation of the connection between declarative memory and Spiritual Values with the possibility to trace the consequences of our actions of kindness and altruism for example, to gain knowledge and learn about how the brain is able to access the realm of Spiritual Values and God's Consciousness.
- Do the reception and the expression of these Values involve different areas of the brain? This is a generalisation of the first two questions where we can explore the possibility of the centre for Spiritual Values in the brain or go in the direction of a Global Brain Dynamics interfacing the quantum field and the spiritual field to the access of Spiritual Values. The second approach is more consistent with the idea of connectivity and The Brain of Melchizadek as the basis of true spirituality.

I am convinced that the initial exploration of the distinction between Behavioural and Spiritual Values is a necessity whose time has come and related to the question of whether true value is contained in a single vehicle or connects its vehicles - human bodies and cognitive systems - to one another. I am also proposing that the measurement and quantification of the effects in the human body of the two categories of values may be possible as science and technology are advancing and more human beings grow spiritually so that each person's consciousness gets closer to God's Consciousness. That means that the human beings so affected become transformed in the inner most being once the psyche and its dominance of the thinking patterns in terms of each person's own needs, imaginings and desires is reworked by The Spirit.

## **An Introduction to Universal and Behavioural Values**

Universal Values are the antidote to greed, fear, anger, guilt, misuse of power and chaos in general because they are grounded in connectedness.

Universal Values are an invisible yet apprehensible presence, essences and forces, which may beget noble human thoughts and feelings that are beneficial to the body, our mental, emotional and physical wellbeing.

Universal Values are the foundation to constructive intelligence and altruistic actions for the wellbeing of the Human Family and beyond.

To explore and embody Universal Values leads to the Exploration of The Source of All Values, The Value Giver, The Ultimate Value and Everlasting, Never Changing Presence.

In our voluntary exploration of the Laws of Nature, The Universe, The Mind, and the attainment of a conscious, everlasting relationship with the Ultimate Value Giver and the Universe, two categories of values can be identified from a Human Being's perspective: Biological Values and Universal Values.

These two categories may be explored and realized in the context of their own domain and nature, and their synthesis may be attained in a human life with the emergence of a fully conscious Human Being who physically embodies and expresses continuously Universal Values.

Human Values are Behavioural Values, sometimes limiting and sometimes supporting of human expression. They are relative in meaning, power, goodness and beauty, mainly related to a biological, physical and objective reality and the way it affects an individual; they can be transformed by the agency of Universal Values.

Universal Values are Spiritual Values, with or without the agency of a human or a behavioural component, they are always liberating and ever expanding our human

consciousness; absolute in meaning, power, goodness, beauty and Truth, mainly related to our moral, spiritual and subjective nature.

In a personal letter, later made public via the Internet, Carey Jackman wrote:

Normative Values are based from a set of boundaries and behaviours developed through fear and reward conditioning. They are patterns of behaviour where individuals are entrained to react and feedback to an external source, separated from the Source of Universal Values. They are held beliefs and thought processes.

Universal Values come straight from the Universal Source, they are directly sustained and accessible through the acknowledgment and relationship with The Father-Mother of All Creation. They are Spiritual Values. They are beyond any mental boundary of social, cultural, racial, and religious behaviour. They are beyond the behavioural values of honesty and respect, moral codes of conduct. One can be honest yet not living in Truth. (2007)

Also in this respect Abraham Maslow made a clear distinction when referring to Spiritual Values, something he called B Values in association to peak-experiences. When trying to answer the question “How does the world look different in peak-experiences?”, he came up with a list of characteristics on which to expand and research and highlighted the fact that this list was immersed in a context related to different experiences and sacred moments that “people through the ages have called eternal verities, or the spiritual values, or the highest values, or the religious values.” (1964, p.65)

The idea that there are Universal Values and that human beings can attune to them raises the need of a Scientific Spiritual Synthesis (SSS) (especially in relation to the exploration, identification, reception, perception and expression of Universal Values) that goes beyond a project which just assumes that the brain contains the sources of all such things. This may lead to the need to measure and quantify the effects of the interplay between Human Values and Spiritual Values in physical bodies, relations and interactions in large. Even though a subjective experience has a neural trace or component, it is possible that this is far from being the only component. The neural trace or component of such an experience could be no more than a collection of effects related to such an experience.

Spiritual Values are different than the subjective experience of those same values. It is also different than qualia or an individual subjective quality of experience and its neural components as portrayed in the book Phantoms in the Brain. There Ramachandran and Blakeslee write regarding this subject, (p. 244): ‘Now you might ask, “Does any of this yield clues as to where in the brain qualia might be?”’ Note that their question provokes a similar inquiry to that involved in trying to distinguish Spiritual from Behavioural Values - are qualia responses of whole beings or parts of their brain?

The situation here is that the brains of different people may look very similar in relation to Behavioural Values and yet very different in relation to Spiritual Values. Also, the areas of the brain and the body where they register and leave their trace may be different. An example of this is when two different people talk very nice, with a soft voice to another human being. In one situation the one who talks is hateful while in the other situation the one who talks is loving towards the other person. To express with a soft voice or to express in a “nice” way is the sort of thing we can detect and measure using brain imaging and it is different than to BE LOVE - a whole integrated and connected state of being.

The traces of a soft voice may be registered in the same area of the brain, with similar or same patterns (at least in that part of the brain). On the other hand, the presence of Love will register as a pattern of coherence or integration, a different heart beat pattern and heart magnetic pulse with a different electromagnetic pulse frequency and with different levels of entrainment and synchronization between different oscillatory body systems like the heart, brain, respiratory and autonomic nervous system as discussed by McCraty and colleagues. An initial attempt to verify this may be to bring together Rollin McCraty’s experiments of Psychophysiological Coherence and Hameroff’s views on Platonic Values and Quantum States of Consciousness and Being, something lacking in Persinger’s approach to the Neurobiology of Values. (Hameroff 2008 and McCraty 2002)

This means that whatever traces are searched for in the brain must be correlated to this electromagnetic frequency and levels of synchronization between different systems. Otherwise, looking “into the brain” is like going to the movies, the scientist is only

capturing a very limited aspect of reality. All of this is a possibility which requires further investigation.

In contrast to this the reader should note that Ramachandran and Blakeslee are narrowing down consciousness to specific areas of the brain:

But I will narrow the scope of inquiry even further and suggest that consciousness arises not from the whole brain but rather from certain specialized brain circuits that carry out a particular style of computation.....These examples will show that the circuitry that embodies the vivid subjective quality of consciousness resides mainly in parts of the temporal lobes (such as the amygdala, septum, hypothalamus and insular cortex) and a single projection zone in the frontal lobes—the cingulate gyrus. (1998, p. 228)

This Hyper Reductionism results as a consequence of the philosophical paradigm which is the foundation of their research.

And the activity of these structures must fulfill three important criteria, which I call (with apologies to Isaac Newton, who described the three basic laws of physics) the “three laws of qualia” (“qualia” simply means the raw feel of sensations such as the subjective quality of “pain” or “red” or “gnocchi with truffles”). My goal in identifying these three laws and the specialized structures embodying them is to stimulate further inquiry into the biological origin of consciousness. (1998, pp. 228-229)

These laws of qualia can be briefly described as irrevocability on the input side (perception) of an event being real to the one who experiences, flexibility on the output side (choice) as what the observer associates his or her experience with and the achievement of representational meaning so that the qualia need to exist long enough in order for the observer to make decisions on how to act based on them. However, even if the biological “origins” of consciousness were to be revealed that would be insufficient to determine the absolute origin of states consciously entered into through exercises of connectedness according to The Paradigm of Melchizedek.

Different research work has studied the neuronal activity and the areas of the brain connected to a state of enlightenment. One of the areas in the brain that seems to be crucial for a transcendental experience is the hippocampus.

In an article published in Newsweek May 7, 2001, “God and the Brain - How we are wired for Spirituality”(Begley 2001, pp. 50-58), there is a picture of the brain illustrating how people in prayer or deep meditation have shown a neurological connection to different states such as transcendence, vision, enlightenment and feelings of awe. The scientist James Austin explains how for example, Cosmic Unity is perceived when the parietal lobes quiet down allowing the person to feel at one with the universe. Other areas of the brain are linked to religious emotions, sacred images, and response to religious words.

Austin also writes, in Zen and the Brain - Toward an Understanding of Meditation and Consciousness:

Broadly speaking, our answers fall into one of three categories. Physicalism holds that there are only physical entities in the universe, not values. Idealism says that values and meaning are implicit in the universe. Perspectivism replies that it all depends on your perspective. From the perspective of a pragmatist, what counts is what works. Within the moment of Zen awakening, however, the flash of insight-wisdom performs an awesome synthesis: it makes the three categories all valid simultaneously. Physical entities are seen into. New dimensions of implicit meaning are revealed. Everything seen works perfectly...(pp. 525-526). The hippocampus has become of further interest to Zen, because “transcendent” states of consciousness have been ascribed to discrete changes postulated to take place in certain of its CA cells. Is this hypothesis valid? (1999, p. 182)

This scientist has identified different areas of the brain and why these different areas relate to spiritual experiences, thus pointing in a different direction than the reductionist idea of a “God Module”.

### **3.2- Introduction to the Systemic Memory Hypothesis**

One of the most important subjects in neuroscience is memory. Many different theories and views have evolved to deal with this subject and I will explore the Systemic Memory Hypothesis (Schwartz and Russek 1998).

Systems are engaged in recurrent feedback interactions between “different” elements in a circular relationship continuously actualizing the state of the system in each of its

elements. When this circular flow is interrupted or damaged, the system as a whole may suffer or cease to exist. An example of this may be the damage to a marital relationship, where the Unity, Integrity and Trust are lost. These invisible Spiritual Qualities and Values hold the relationship together and when these fields and attraction forces are disturbed, then the hearts and the brains of each of the individual components of a marital relationship may suffer. The same kind of analysis can be applied to active circuits in the brain “neurons that fire together wire together”.<sup>33</sup>

In these kinds of circular loops there is an intrinsic type of memory that builds up and is sustained as the system functions in integrity and wholeness. This is called the Systemic Memory. According to this hypothesis, implicit (unconscious) storage of information and energy may be the rule in all levels of nature, and explicit memory (the conscious retrieval of information and energy) is regarded as a special case of implicit memory.

It is important to mention that recurrent feedback interaction occurs at all levels of creation, within all cells and molecules between neurons, people, planets, galaxies and universes. Therefore, when taken into consideration in the light of the systemic memory theory, many of the scientific unexplained observations and facts reported in parapsychology, homeopathy, kinesiology, organ transplant, spiritual healing amongst others, can often be understood.

It seems to me that Ramachandran and Blakeslee are underestimating people and the amount of those people that they call eccentrics, when they write:

Except for a few eccentrics (called panpsychists) who believe everything in the universe is conscious, including things like anthills, thermostats, and Formica tabletops, most people now agree that consciousness arises in brains and not in spleens, livers, pancreases or any other organ. This is already a good start. (1998, p. 228)

This is *prima facie* a contradiction of his evolutionary views of consciousness in that it assumes that consciousness arises de novo with brain development without any clear conception of what consciousness is, so that it perpetuates a confusing and ambiguous

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<sup>33</sup> “Hebb’s law states that if a synapse is active when a postsynaptic neuron is active, the synapse will be strengthened – this is known as Hebbian learning.” (Gazzaniga et al., 2002, p. 345)



definition of the term “conscious” that is left conceptually unclear. It would be interesting to hear him explain why a person who receives a heart transplant and starts registering some of the memories of the donor in his own brain ends up reporting subtle changes in biological identity and perception of self.

A simple case of the systemic memory effect may be observed when a person who is in stress, freely receives and unifies with a person who is in Love and Harmony. There is transference of values from one person to another. This can happen in a silent encounter, a loving touch, some words of wisdom and comfort, therefore creating a unified loving interaction between both human beings. This means the stressed person remembers or retrieves the memory and the state of being Love by interacting with Love in another person. Now, they can be called a Loving or caring relationship or in systems theory language, a Loving bio-coupled feedback system. Gratitude, Humour, and Friendship would emerge as part of the synergistic effect related to the internal dynamics of this system.

This formation of an inclusive identity relates to the dissolution of the boundaries of self (an illusion or aspect of *maya* in Buddhist/Hindu philosophy):

This need to reconcile the first-person and third-person accounts of the universe (the “I” view versus the “he” or “it” view) is the single most important unsolved problem in science. Dissolve this barrier, say the Indian mystics and sages, and you will see that the separation between self and nonself is an illusion—that you are really One with the cosmos. (Ramachandran and Blakeslee 1998, p. 229)

A sense of unity with the universe may start just with the interaction, integration and unification of different memory systems of different types of human beings and other living systems.

In this example the brain and the heart of each element exhibits a coherent behaviour also reflected in certain neural-pathways. This needs to be taken in consideration when exploring the neurology of spiritual and religious experience, as well as Spiritual

Identity and Character, something absent so far in my understanding of Ramachandran's book.<sup>34</sup>

Though neurons are clearly especially gifted in storing sensory and psychological information (because neurons are so highly interconnected, creating profoundly complex recurrent feedback interactive networks), it may be time to evolve our intellectual heritage and re-envision the brain as being a marvelously special case of a ubiquitous dynamic systemic (holistic) memory process in nature. (Schwartz & Russek, 1998, p. 252)

This theory has far reaching possibilities because it allows us to see memory as non-local, meaning that as soon as two open systems interact to form a larger system, then the memory of the interaction between these two systems will be stored in each part of the system. This poses the new question of how can this information be retrieved by any element of the system at any time? In the example of a Loving relationship it can be said that psychologically the short-term memory of the interaction between the two people may be sustained as long-term memory by the interaction within each person.

### **3.3- A Brief Introduction to Holonomic Brain Theory**

The concept of recurring feedback interaction is implicit in Karl Pribram's Holonomic Brain Theory. He proposes that the brain works as a hologram. According to Jeff Prideaux:

Karl Pribram's holonomic brain theory weaves several concepts together in forming the holonomic brain theory. A partial list is the following:

1. The apparent spectral frequency filtering aspect of cortical cells.
2. The relationship between Fourier transforms and holograms.
3. The fact that selective brain damage doesn't necessarily erase specific memories.
4. The computational advantage to performing correlations in the spectral domain.

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<sup>34</sup> In their paper, "Do All Dynamical Systems Have Memory? - Implications of the Systematic Memory Hypothesis for Science and Society." Paper 9 of Brain and Values, edited by Karl Pribram.

5. His idea of conscious experience being concurrent with the brain performing these Fourier-like transformations (which simultaneously correlate a perception with other previously stored perceptions). He believes that conscious experience is the act of correlation itself and this correlation occurs in the dendritic structures by the summation of the polarizations (and depolarizations) through the processes in the dendritic networks.
6. The brain is a “dissipative structure” and self-organizes around a least-action principle of minimizing a certain uncertainty relation. (2000, p. 22)<sup>35</sup>

Pribram’s Holonomic Brain Theory opens an avenue to understand memory as non-local and intimately related to the microscopic electrodynamics in the dendritic network and in the manifestation of consciousness and memory. Holonomic Brain Theory is a fundamental bridge to understand the interface between the electromagnetic and quantum fields, and brain dynamics based on the neuronal doctrine. Basically Pribram’s ideas contributed a stepping stone to the understanding of quantum events and their effects in neuron activity shedding light for others to approach the difference between Spiritual and Behavioural Values.

### **3.4- An Introduction to Morphic Resonance and Morphic Fields**

Another theory that deserves attention and ties together with all these findings is Sheldrake’s theory of Morphogenetic fields, mental fields and morphic resonance. According to Rupert Sheldrake (1981)<sup>36</sup>, the development of form is embedded in what he calls morphogenetic fields; those fields contain information (like a blueprint) for the further manifestation of form. He extends this concept to mental fields defined as the basis for habitual patterns of thought. These fields go beyond, through and interface with the electromagnetic patterns in the brain thus affecting the human body and are more extensive than the human brain, reaching out long distances in many cases. This means that the human brain is sort of an antenna (transmitter-receiver), like a television picking up broadcast signals in different mental fields. In turn the brain transforms those signals

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<sup>35</sup> In, Comparison between Karl Pribram’s Holographic Brain Theory and more conventional models of neural computation.

<sup>36</sup> A New Science of Life - The Hypothesis of Formative Causation.

into different neural patterns to decode the information into for example, vision, sound, sensation amongst others.

Morphogenetic theory is an alternative view to the Hyper Reductionist approach of Ramachandran and Blakeslee suggesting that spirituality is connectedness beyond oneself (and the limitations of one's Brain/Body).

Here is presented a paradigm shift from a purely mechanistic view to a systemic and holistic one. In the study of human life and organisms in general, some intrinsic properties are observed. When a person cuts an oak tree in different pieces, each piece can grow into a new tree showing clear evidence that the whole is in the parts. This is a systemic property that organisms and fields have in common, that mechanical systems lack, unless they are associated with fields.

What this means is that these fields have embedded memory (the realization of which is difficult to explain yet involves both genetics and epigenetics). Through these fields a process called "morphic resonance" takes place. This process implies a connection amongst similar fields where like attracts like or like influences like. It can be derived from this phenomenon that the structure of the field has a cumulative memory based on what has happened to the species (entity, part of the system) in the past.

All this applies to proteins, molecules, crystals, atoms, human beings, living organisms in general, planets, solar systems, galaxies, universes in large. Some of the implications of this theory are that if a species, say a certain type of monkey, learns a new pattern of behaviour, then this pattern will be picked up or learned easier by say, monkeys in another part of the planet or by the next generation of monkeys even if they have been separated from their parents since birth. This means that hereditary factors depend on both DNA and morphic resonance.

Sheldrake explains the idea of a collective memory that similar groups and groups consciousness' share. This means that thoughts are part of a sort of thought-form database which human beings can tune into and be formed by and he enunciates a hypothesis he calls 'formative causation' (related to Carl Jung's theory of a collective unconscious).

Sheldrake sees morphogenetic fields as playing a 'causal' role in both the outer form and structure of a system and its inner (internal) form. This 'causation of form' is what he calls 'formative causation'.

Morphogenetic fields are the preformed program or field that co-ordinates and controls the development of an organism. Hans Spemann, Alexander Gurwitsch, and Paul Weiss, (Sheldrake 1988, p. 99) have each proposed that morphogenesis is organised by fields and living organisms and these fields have been called developmental, embryonic and morphogenetic. These fields are involved both in organizing normal development and regeneration after damage.

Each species of organism has its own morphogenetic field. The nature of these fields has remained a mystery, as morphogenesis is. These fields can also be linked or related to a Platonic or Pythagorean objective mathematical reality or an Aristotelian set of immanent organizing principles. The Platonic or Pythagorean framework allows such principles to exist independent of the organisms that embody them whereas the Aristotelian view is that they are common (or general) properties of the individuals concerned.

Morphogenetic fields are also referred to by the term morphic fields; however this term is more general than morphogenetic and includes other kinds of organizing fields like those one's organizing animal and human behaviour, social and cultural systems and mental activity. All of these fields contain an inherent memory. Morphogenetic fields are generally shaped and reshaped from generation to generation within their own species and categories. Sheldrake writes in The Present of the Past:

Thus, for example, the morphic fields of the foxglove species are shaped by influences from previously existing foxgloves. They represent a kind of pooled or collective memory of the species. Each member of the species is moulded by these species fields, and in turn contributes to them, influencing future members of the species. How could such a memory possibly work? The hypothesis of formative causation postulates that it depends on a kind of resonance, called morphic resonance. (1988, p. 108)

Morphic resonance works through a similarity principle where similar organisms affect each other by morphic resonance. Morphic resonance involves a kind of non energetic transfer of information and it happens in rhythmic patterns of activity. This introduces a

radical view about memory where memory is inherent in all organisms in two ways: organisms inherit a collective memory of their species from their ancestors or predecessors and individual organisms are affected by their own memories of their own past by morphic resonance which provides the matrix for their own individual memories and habits. This implies that behavioural patterns are organised by interlocking hierarchies of behavioural fields. In the same manner that morphogenetic patterns are organised by interlocking hierarchies of morphogenetic fields.

It is unknown where the first generation of morphic fields came from and a possibility is that they came from a 'Higher' kind of field or pre-existent transcendental archetypes in that in physics morphic fields like the electromagnetic, gravitational and quantum fields interact with matter and somehow organize it. Because it is likely that morphic fields are associated with holons in complex systems then chemical molecules are also more likely associated with certain morphic fields. These shared patterns of activity seem to offer the possibility of developing a model for the interaction between morphic mental fields, physical fields and brain dynamics at a neuronal and molecular level.

According to this theory memory can be viewed in a different light and may be stored somehow outside of the brain in a way that interacts with the individual brain. Sheldrake justifies his view by stating that the traditional model of neuronal based synaptic dynamics seems to be incongruent with recent research.

If memories are somehow stored in synapses, then the synapses themselves must remain stable over long periods of time: indeed, the nervous system as a whole must be stable if it is to act as a memory store. Until recently this was generally assumed to be the case, even though it has long been known that there is a continuous process of cell death within the brain. But recent evidence suggests that the nervous systems of mature animals may be more dynamic than previously supposed... This dynamism in the structure and functioning of the nervous system presents great difficulties for the concept of memory traces. At the molecular level too, as Francis Crick has recently pointed out, there is a dynamism that makes the long-term storage of memory traces problematic. The time span of human memory is often years or tens of years. "Yet it is believed that almost all the molecules in our bodies, with the exception of DNA, turn over in a matter of days, weeks, or at the most a few months. How then is memory stored in the brain so that its trace is relatively immune to molecular turnover?" (1988, pp. 166-167)

The key of morphic resonance then, is that similar things influence similar things across space and time. If this hypothesis is correct, then memories can be stored in a human brain or somewhere else. Sheldrake suggests that the brain is more likely to be a tuning system than a memory-storing device (attuned to the order of things around it and the universe in large). This is one of the ideas that are absent in Pribram's Holonomic Theory of the brain. (Pribram 1971)<sup>37</sup>

Sheldrake's theory seems to be in line with Gibson's ecological approach to perception and his theory of information pick up. This theory differs from traditional theories of perception in that a definition of perception is introduced whereby it is a psychosomatic act ascribed neither to the mind nor the body rather to a living observer. The act of perceiving or picking up information is further described as a continuous ceaseless and unbroken act related to a flow of energy around us and within us. So, in this theory perceiving is described as a flux instead of a sequence and is linked to the environment, self and awareness (and their interaction). In this sense perception is a sensing attribute of consciousness associated with value and meaning. The theory of information pick up requires perceptual systems instead of senses, one active where the other is passive (Gibson 1966)<sup>38</sup>. He also writes:

The theory of information pickup requires that the visual system be able to detect both persistence and change – the persistence of places, objects, and substances along with whatever changes they undergo. Everything in the world persists in some respects and changes in some respects. (1979, pp. 246-247)<sup>39</sup>

According to this theory, information requires no storage in memory because it is always available through a pickup process shaped by learning and development. Gibson is convinced that remembering, thinking, conceiving, expecting, knowing, imagining, dreaming, rationalizing and wishful thinking can never be understood as the operation of the mind or reactions of the body and brain processes and he states, "...if they are reconsidered in relation to ecological perceiving they will begin to sort themselves out."

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<sup>37</sup> Languages of the Brain: Experimental Paradoxes and Principles in Neuropsychology.

<sup>38</sup> The Senses Considered as Perceptual Systems.

<sup>39</sup> Ecological Approach to Visual Perception.

When one considers the Morphic Resonance Theory, an interesting possibility arises. This is because people can tune both into their own and other peoples' memories.<sup>40</sup> All this could make many people wonder what kind of reality is experienced by brains, through morphic fields of scepticism, in contrast with the kind of realities which would be experienced by brains interacting with morphic fields associated with Spiritual Values and the agency of a Higher Power. Perhaps this is why there are alternate paradigms to the promissory materialist one and perhaps this is why it is so important to be all inclusive in the assessment of reality. All morphic fields are present until they cease to be. Scientifically this means that in his or her experimental design the scientist would more likely find results akin to the morphic field (with the "paradigm") to which he or she is attuned. It reminds me of the phrase, "What you sow is what you reap".<sup>41</sup>

This possibility is veiled to philosophers like Thomas Metzinger, who equate identity and self to information processes or informational constructs within the individual, based on information exchange between human beings with a self-model reduced to neural activity only, without the interaction of morphic mental fields (a constituent basis of self according to Sheldrake's theory).

Analogously, I suggest that mental fields of perception and behaviour are intimately related to the activity of the brain, but they extend beyond it, through attention and intention....A few decades ago, scientists thought of brains as like telephone exchanges, with nerves linked to sense organs transmitting signals to the central switchboard... Instead, there are complex patterns of activity in large populations of neurons. These patterns of activity can be detected either through brain imaging techniques, where different parts of the brain 'light up' as a result of the increased activity within them, or by measuring patterns of electrical activity through electrodes placed over the surface of the brain. The neuroscientist Walter Freeman, at the University of

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<sup>40</sup> Before I continue, it is important for me to clarify that this is nothing new to me, it has been my ordinary way of being and experiencing life since childhood. There is nothing extraordinary about it. What seems extraordinary to me is that I came to realize that for many people this is a foreign experience and that for some other people, it appears that they consciously or unconsciously choose to ignore or deny it. Perhaps, in the language of this theory there is some sort of mental field affecting the human brain with distorted thought-forms, in combination with the possibility that as a species, humanity is still evolving to develop a brain fully capable of functioning to perceive these aspects of reality.

<sup>41</sup> Some examples of challenging areas for scientific research that can be explained by Sheldrake's theory are: communication being to being (telepathy) with other humans and spiritual beings and particularly with disembodied loved ones. Implicitly is derived the immortality of the soul that once disembodied carries its memories of qualities and character into new forms of existence.



California at Berkeley, has spent many years investigating these patterns of activity....Freeman argues that these meanings depend on intentions, which are often unconscious. He models the interpretation of meaning in terms of attractors, using the language of dynamics...He proposes that the activity of the brain is modified by meanings and intentions, precisely because it is chaotic, in the sense of chaos theory...My suggestion is that morphic fields help impose order and pattern on this sensitive chaos, and interact with the brain through their ordering activity. They contain an inherent memory, through morphic resonance. They also project out far beyond the brain through attention and intention. (Sheldrake 2003, p. 278)<sup>42</sup>

According to Sheldrake and Gibson's theories a holistic approach is the only possible approach to the organisation of brain activities which show integrated patterns and organised systems of interaction. This is also very different than Ramachandran's describing consciousness as an event, taking place out of the interaction of material systems only and confined to biological events within the brain of an individual.

It seems clear that to understand this phenomenon from a scientific perspective, a paradigm shift needs to take place from the idea that the mind is somehow localized in the brain. It is important to mention that God is different than any morphic field; however it may affect any mental or morphic field and through them, matter itself. In the words of Sheldrake:

This is a description of the cosmos which has intelligence at every level, instead of a view that sees consciousness, as something that emerged from unconscious matter. (Sheldrake 1994)

It is therefore in striking agreement with the possibility of pan-psychism that Ramachandran dismisses.

### **3.5- Brain Dynamics, Oscillators and Large-Scale Integration**

Francisco J. Varela and colleagues have introduced new ideas about brain dynamics, synchronous local field potentials, phase synchronization and large-scale integration and

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<sup>42</sup> The Sense of Being Stared At and Other Aspects of the Extended Mind.

some interesting ideas about neural dynamics and consciousness on the basis of work with neural assemblies and large scale brain integration.<sup>43</sup>

Varela and colleagues (2001)<sup>44</sup> state a plausible mechanism for large scale integration in the formation of dynamic interactions and connections mediated by synchrony over multiply frequency bands. This means that neuronal groups can enter a state of synchrony over a limited period of time, something like a fraction of a second. It is important to mention that synchrony in the context of this paper is related to new sophisticated statistical methods for measuring synchrony and its meaning is derived from dynamic-systems analysis.

In their work they mention that detailed evidence for long range synchronizations between widely separated brain regions during cognitive tasks has been found and some of their studies indicating synchronization involving the left parietal-occipital and fronto-temporal regions in visual perception tasks related to gamma activity. These results suggest that phase synchrony is related both to the binding of sensory attributes and the overall integration of all the dimensions of a cognitive act.

All of this seems to indicate that to understand consciousness and its neural basis the scientist must find those kinds of dynamical brain signatures rather than searching at the structural level of specific circuits or classes of neurons. However they point out that further investigation must be done because studies regarding synchronization in the human brain are still inconclusive.

The evidence available so far regarding the function of synchronization is only correlative. There is no direct proof that synchrony leads to changes in behaviour when it is selectively altered. Such direct evidence has only been obtained in the olfactory system of insects. Stopfer et al, showed that odour discrimination deteriorates if synchronization patterns among olfactory bulb cells are disturbed. The search for similar evidence in the vertebrate brain is a daunting challenge, but future studies in this direction are a priority. (Varela et al., 2001, p. 8)

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<sup>43</sup> Their ideas about consciousness I will mention in section 4.2.1 of the next chapter.

<sup>44</sup> In the paper, "The Brainweb: Phase Synchronization and Large-Scale Integration."

This introduces the idea that neural processes are part of a network of non linear oscillators and intimately related to self organizing systems where emergent processes are associated to the collective behaviours of large ensembles where feedback interactions generate nonlinear dynamics.

Another person who has done an extensive work on explaining synchronization is Gyorgy Buzsaki<sup>45</sup> (2006). He notes that Donald O. Hebb was among the first thinkers who said that the brain's capacity to come up with a coherent thought is related directly to the spatiotemporal orchestration of its neurons which is referred to as the "cell assembly" hypothesis (1949).<sup>46</sup>

He describes this transient coalition of neurons as analogous to the dynamic interactions between jazz musicians.

To understand the power of synchronization scientists must first understand how different kinds of oscillations may alter brain dynamics. Let's have a look at the implications of brain alpha and theta oscillations and the effects of meditative states and a spiritual practice and how that differs from the views of Ramachandran.

Buzsaki mentions two different types of meditation, the yogic meditation which emphasizes the inner reality and the need to break free from *maya*, the external illusion of sensorial information. This meditation is practiced usually with the eyes closed, where attention is in inner states of being. Zen meditation in contrast seeks to harmonize the inner and outer aspects of reality and is practiced with the eyes half open, usually focusing on an object of meditation.

Buzsaki says that both types of meditation are accompanied with a change in alpha oscillations:

When absorbed in the Samadhi of Yoga meditation, when the self-versus-environment distinction disappears, external stimulation is largely ineffective in blocking alpha oscillations, whereas continued blocking

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<sup>45</sup> In his book, Rhythms of the Brain.

<sup>46</sup> Hebb, Organization of Behaviour.

without habituation is observed in Zen meditators...After decades of training, large-amplitude theta-frequency rhythm may dominate over a large extent of the scalp. Yoga and Zen training, therefore, reflects a competition between internal forces of synchrony and external perturbation. (2006, p. 215)

It is suggested that the presence of alpha oscillations generates a sense of tranquillity and stillness which is an antidote to mental noise, meaning a brain highly populated by invasive thoughts. However meditation is also about the capacity of enhancing attention and mind control and this has suggested a paradoxical dichotomy where enhanced alpha activity can be interpreted as evidence for relaxation and calmness in westerner's brains in contrast with Buddhist monks for whom the result of meditation is enhanced internal attention.

Buzsaki describes an interesting application to brain wave control where the person can at will generate at any moment brain oscillations of a specific kind and if this is so then those signals may be used to turn on a TV or move a computer mouse or wheelchair. This he says has been initially tested in moving cursors on a computer screen and robot arm movements.

In such a prototypical experiment, the subjects were asked to use whatever imagined image they could to move a cursor from the center of the screen to one of the eight possible targets at the periphery. The cursor was moved by the output of an algorithm that measured the EEG power in the 12 and 24 hertz narrow bands derived from just two electrodes over the right and left sensory-motor cortex. After a few weeks of practice, the best subjects hit the targets with high accuracy within 2-5 seconds. Besides the potential medical implications of such research for quadriplegic patients, the most striking aspect of this experiment is the selective enhancement or reduction of arbitrary brain oscillations by visual feedback. (2006, p. 217)

Buzsaki has made a diligent effort to persuade the reader that brain oscillations are important and serve different functions of the brain and he has made clear "evolution took advantage with the ease with which synchrony can be brought about by oscillations at multiple temporal and spatial scales."

All of this presents us with an interesting concept, the concept of synchronization and entrainment between different oscillatory systems which can work together in harmony with one another like a jazz band. This can be extended from the brain's neuronal

assembly concept to different body systems like the brain, the heart, respiratory and autonomic nervous system which can be seen as oscillatory systems that under certain conditions synchronise together to the same beat. This can also be extended to the synchronization of different human beings as I have mentioned before, a music band for example.

All of these ideas suggest a very different approach than the one Ramachandran uses to describe Spiritual Experiences as an event localised in specific areas of the brain, what he called the “God Module”, a concept missing oscillations, synchronization and large scale integration of neuronal assembly.

According to Schwartz and Russek:

Pribram (personal communication) has suggested that valence (the foundation of value) is a prerequisite for recurrent feedback interaction and hence the creation of dynamic memory. His suggestion is consistent with dynamical energy systems theory. The concept of a system requires that the components be connected energetically. Energetic connection implicitly involves the concept of valence. In humans, emotion (in particular love) functions as valence, and emotion (in particular love and loving relationships) fosters memories. Valence in turn fosters the creation and maintenance of relationships. The systemic memory hypothesis predicts that the kind of memory that is stored is dynamic relationship memory. It is conceivable that the capacity to “re-resonate” with dynamic memory may involve patterns of valence as well. (1998, pp. 269-270)

One of the major limitations in this type of research may be to find volunteers who are fully realized spiritual beings, displaying all the symptoms and signs related to the neural and body traces of the presence of Spiritual Values.

George F. R. Ellis writes:

...we can consider the possibility of God’s intervention in our physical reality and our world through God-centred minds: This is to consider the possibility that within the laws governing the behaviour of matter, there is hidden another domain of response of matter to life than usually encountered: matter might respond directly to God-centred minds through laws of causal behaviour, or there may be domains of response of matter encompassed in physical laws, but they are seldom tested because such God-centred minds are so seldom encountered. Then the distinction between ordinary and extraordinary action becomes a question of whether or not we have entered this domain. What has been classified as

“extraordinary” action above would be “ordinary” action but in a different set of circumstances leading to a different kind of response and behaviour where God-centred thought dominates and matter responds. Thus, we have the possibility of the existence of a new order, new regime of behaviour of matter, where apparently different rules apply, when the right “spiritual” conditions are fulfilled. (1995, pp. 359-396)

This is significantly different than Ramachandran’s views, who only describe changes in the neuronal activity leading to religious experience, as a consequence of electromagnetic stimulation of certain areas of the brain i.e. as arising within a human being considered as a biological organism. The above implies actually that a human being in unity with God may alter certain electromagnetic fields around him or her, as well as brains, or the weather.

A summary of the thesis so far is as follows:

1. Scientists are starting to take Spiritual Experience seriously and their work falls into two general paradigms - Behavioural (individual survival, biological competition based on information, cause and effect) and Inclusive or Universal (connectional, biophysical, supra-individual, finding one’s place in the whole and spiritually based towards unity consciousness).
2. There are a number of intriguing findings in medicine and experimental neuroscience that cast doubt on and expose the limitations of existing theories based on materialistic views of the mind and reductive brain science.
3. An extreme of such thinking is found in the attempt to identify the spiritual life of a human being with a limited range of activity in some selected brain centres equating religious experience and communication with God with brain activity (as could be mistakenly interpreted in the “God Module” view).
4. The “God Module” view and other reductive approaches to RSME may mistakenly be interpreted as brain activity associated with survival mechanisms without any connection to the Spiritual Domain and God’s Presence and with a limited range of patterns of neural excitation in certain centres of the brain.

5. The brain serves functions of Conceptual Blending or Integration requiring the combining of otherwise separate and dispersed information.
6. Whereas behaviour of a certain form may be explained by activity in a limited region of the brain, the need arises for an explanation of whole patterns of relationship to others that embody Spiritual Values as an integral part of consciousness, specifically God Consciousness.
7. The human species, other animals and even objects inhabit fields among which are morphic fields that explain certain features of behaviour and memory in whole species inexplicable by localised brain mechanisms.
8. The brain is attuned to the environment in a holistic way and uses its systems inclusively to do that work (brains and environment are part of the same whole).
9. Wide areas of the brain operate synchronously through feedback and training when a person is clearly in touch with particular ends, thought patterns and states of being as in some traditional mystic disciplines.

So far all of the theories and hypotheses of the different authors mentioned in this work taken together provide a framework of reference to understand what Spiritual Values are as scientists allow themselves to move beyond the materialistic view of human function.

However, for the majority of human beings still living on this earth, Spiritual Values find their expression in the context of Behavioural Values. These two are intrinsically related and therefore, inevitably this raises the need to investigate also the Neurobiology of Behavioural Values and to define an Evaluative System.

### **3.6- An Introduction to an Evaluative System**

I will define an Evaluative System as the interaction (between the spiritual, quantum and the matter field) of a Universal Core Value System of Spiritual Values and a set of boundary based Normative or Behavioural Values developed through fear and reward conditioning. The Universal Core Value system comes from The Source of all Spiritual Values, while the set of Normative Values are a consequence of the operation of mental

spaces, in conjunction with emotional responses and the natural mechanisms of the human species for survival purposes.

An evaluative system enables the creature (human being) to make decisions based on a combination of reactive responses to stimuli coming from his or her natural environment in conjunction with the processing of social based rules and Spiritual Values in perfect interaction with the Source of those values.

Only just recently neuroscientists are beginning to understand, from the point of view of the brain, the mechanisms by which the orbito-frontal cortex uses emotional information to assist in decision-making. Some scientists like Edmund Rolls (1999), have suggested that the orbito-frontal cortex is necessary for quick evaluation of stimulus reinforcement associations and that this evaluation has its own mechanism of adaptation to changes in the environment.

Ramachandran and Blakeslee are locked into views of consciousness based on temporal lobe function because they confuse Spiritual Identity with Physical Identity. An Evaluative System distinguishes between the two. Spiritual Identity endows the human being with the capacity to discern (through the evaluative system) Spiritual Values, other personalities, “God’s Voice” and Personality and the leading of The Spirit in carrying out the Will of God as well as personal history and biological information. It is capable of discerning the Eternal Essence of Personality from a biological and information based sense of self (Metzinger’s Self-Model or Ramachandran’s illusionary self).

Authors like Damasio, Edmund Rolls, Howard Eichenbam, Neal Cohen and others, agree that the orbito-frontal cortex plays a significant role concerning the ability to respond and act in a social environment where there is an exchange of emotional input between people. Also, that the decision-making process of a human being is based on an evaluative system that is stored in the frontal limbic cortex and takes into consideration the emotional qualities of a stimulus in order to access how meaningful it is, and what actions are adequate. Most of the scientists also agree that the amygdala is one of the main neural structures that interact with the orbito-frontal cortex in emotional processing. This coincides with some of the testimonies of Ramachandran and Blakeslee



and with Seidenbeche et al (2003), who show that the amygdala and the hippocampus act as a feedback system of emotional, spatial and declarative memory processing.

So, these and other findings lead to the possibility that the major systems involved in the processing of emotion are the limbic system, the amygdala, hippocampus together with the orbito-frontal cortex and the basal ganglia.

The kind of experiments needed to validate the interplay of Spiritual Values and Behavioural Values seems to be a major question for the scientific community.

Later on I will briefly introduce some of the ideas and writings of Dr. J. J. Hurtak about the relationship between language, thought, spirituality and brain dynamics.<sup>47</sup> According to these ideas, Ramachandran's description of "Oneness" and the dissolution of boundaries can be reinterpreted in a different light.

Ramachandran also mentions the barrier of language as the main barrier to communicate Spiritual Experiences amongst different human beings. Paradoxically, language can also be used to liberate a human being from these perceived boundaries that Ramachandran talks about. Therefore, another topic of research may well be directed to answer the question of how does such a process happen and what kind of language could be needed to fulfil this task? Thus the need now arises to find ways forward to explore and expand new views on Consciousness, Spiritual Experience, Self, Character and Identity and Ultimately Unity with God and God Consciousness. For this, I have taken into consideration from the point of view of neuroscience and neurobiology, some of the views of Ramachandran and Blakeslee as well as other scientists.

First, I will propose the exploration of the interaction between the Temporal Lobe and the Prefrontal Cortex and their relationship to Physical and Spiritual Identity respectively. These would be to find neural traces of such interactions and such a research could be approached on the basis of a clearer distinction between Spiritual and Behavioural Values.

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<sup>47</sup> These ideas and their linguistic implications for brain processes are further expanded in Appendix B.

Secondly, I will propose the search for a phenomenon that I will call a “Healthy Blessed Seizure”, brain activity similar to that found in certain types of Epileptic Seizures, therefore leading to spiritual and religious experience of “oneness” but with the added characteristic of the state being in the control of the person who enters it.

Thirdly, an exploration of the Evaluative Systems pathways related to the perception of the dissolution of boundaries and the experience of “oneness” leading to the realization of Spiritual Identity with the ongoing subsequent experience of continuously embodying Spiritual Values.

As I mentioned in a previous chapter the study of people with epilepsy could shed some light on these proposed explorations particularly when we address the possibility that a Spiritual Experience is quite different than a seizure (even though it resembles it). Instead of equating a seizure as the cause of Spiritual Experience we could observe it as the behavioural component associated with certain areas of the brain in the experiencing of the feelings of extreme joy and pain where the spiritual aspect of the sacred may or may not be present or even the cause of the epileptic seizure.

In contrast we must bear in mind that the Presence of Love and the sacred, associated with being Love transcends the brain to interface with quantum and spiritual fields enabling a cognitive map capable of transcending the dichotomies of joy and sorrow as reported by people with epilepsy, manifesting a synergy and integration emergent from the complimentary dynamics of opposites. All this would lead us to the study of consciousness by the application of nonlinear brain dynamics, co-ordination dynamics, and quantum field theory.

I am suggesting that a “Healthy Blessed Seizure” can be part of the chain of neural events related to the cause of a Spiritual Experience and that the proper preparation in prayer and the genuine desire to listen to the “Voice of God” and the readiness to act according to the will of the Ultimate Value Giver will produce an entrainment involving the Prefrontal Cortex. This synchronisation is caused to provide the long lasting effect of knowing one’s own Spiritual Identity and the ongoing embodiment of Spiritual Values.

This is very different to an epileptic seizure or an artificially stimulated brain who reports only the experience of ecstatic unity of the cosmos. This my Dear Reader, is a starting point to the exploration and understanding of The Brain of Melchizedek!

To finalise this analysis of Ramachandran's work I need to mention that recent discoveries in quantum physics are leading many scientists away from an oversimplified mechanistic and overly reductive approach to the understanding of reality - (Beauregard calls this Promissory Materialism). With the advance of modern technologies the scientific community have gained more access to look closer into the brain as well as understanding internal states of conscious, non verbal experience, feelings and emotions with the aid of biofeedback systems.

As a consequence of the limitations that neuroscience faces in conducting research under a promissory materialistic paradigm to explain the hard problem of consciousness, a dialogue has been started and new vistas, theories and paradigms are emerging. This is because different people like scientists, philosophers, Mystics and Prophets, though motivated to the inquiry of this subject from different perspectives, are genuine in their quest and open to a broader understanding of the different aspects of reality.

### **3.7- An Introduction to Metzinger's Self-Model**

Amongst the different philosophers that have studied the phenomenon of self and its neural correlates Thomas Metzinger has written about Character and Identity as represented in a dynamical system. He has proposed that the foundation for that model must be based on a theory to explain the first person perspective. This theory he has proposed must be grounded in sound concepts and be able to be tested empirically and to grow and develop to incorporate new insights in the complex phenomenon of consciousness and subjective experience.

A phenomenal self-model is a multimodal representational structure, the contents of which forms the contents of the consciously experienced self. It has two important features: It is the only representational structure which is anchored in the brain by a persistent functional link, namely by a continuous source of internally generated input. Secondly, large parts of PSM are phenomenally transparent: they cannot be recognized as

representations by the system itself. It is therefore caught in what might be called a “naive-realistic self-misunderstanding.” (Metzinger, 2004)<sup>48</sup>

Metzinger elaborates on the idea that a model of consciousness and self requires an interdisciplinary approach to be able to be tested empirically and the arena for research he proposes is biologically grounded on the brain and nervous system as explored in waking or dream states. For him subjective experience needs to be analysed as a form or structure which represents the content by which the system generates and uses meaningful information while interacting with its environment. Also important to him is to describe the functional aspects of meaningful or relevant content. These are associated with certain states in the system enabling an analysis and specification of the algorithms and mathematical models that can explain functionally the neural correlates of mental states related to Self, Character and Identity.

This approach even though interdisciplinary is still a reductionist approach with the tendency to associate self with information processing, devoid of any spiritual substance and content and without a link to The Creator as the Source of Spiritual Values and the giver of Personality and Identity. Therefore it can be almost predicted that this model will lead to an informational construct of self, very similar to what the Hindu's call *maya* as portrayed in the Ramachandran's view of self. Almost every comment about Ramachandran's reductive and limited approach can therefore be made also in response to Metzinger's theory of self.

In all justice to Metzinger, it seems to me that he is aware of these limitations. He is leading the reader to understand that the idea of a “self” based on information and neural correlates is a construct or illusion. This means, a fictitious set of different layers of biologic and genetic identity with a mental map to facilitate interaction with the environment, based on Behavioural Values and behavioural components.

It also seems to me that what he calls the “naive-realistic self-misunderstanding” is related to the story of the Zombie Bee in Ramachandran's view. This is a feature that

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<sup>48</sup> “The Subjectivity of Subjective Experience: A Representationalist Analysis of the First-Person Perspective.” This is an extended and slightly revised version of T. Metzinger Editor, 2000a, Neural Correlates of Consciousness - Empirical and Conceptual Questions.

would have never been discussed by any human in any theory if humans were designed to remain naïve, because this phenomenon would be ignored and veiled in the person's naivety.

The contribution of this approach would be to leave the reader, in the best case scenario, with the idea that that which is called identity (based on biological information about the brain and neural processes) is conclusively a false identity. This can be understood as a temporal structure, sort of a playground for the human to fully grasp and realise his or her true Spiritual Identity (The I AM Identity), a spiritual being in unity and intimately related to The Creator and the universe in a conscious manner with Personality, Character and Identity (just as a child's toy and playground prepares him or her in certain ways for real life). In my view that kind of identity in human consciousness embedded in different electromagnetic fields and light waves is what would leave certain neural and biological traces which are of interest to the understanding of The Brain of Melchizedek.

Metzinger confirms my observations about his model when he writes:

For a Philosopher, attempting to contribute to a reductive explanation of consciousness is never an ideology or an emotional substitute for religion. If it turns out that there are principled reasons why important features of subjective experience can never be epistemically grasped through a system of interdisciplinary cooperation like the one sketched above, she will be quite happy with this result, because the philosopher will then have achieved what she has always aimed at in the first place: epistemic progress, a growth of knowledge. (2000a, p. 287)<sup>49</sup>

One of the important reasons to have an understanding of the real meaning of identity, and by real I mean, a spiritual understanding of Character, Personality and Identity (instead of an informational construct) is that human actions in physical reality are driven internally by a spiritual foundation value system. This system of Spiritual Values interacts with the Behavioural Value system for discernment and conscious action within a social context. This is also different than operating in a reactive modality towards the environment only for survival reasons.

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<sup>49</sup> "The Subjectivity of Subjective Experience: A Representationalist Analysis of the First-Person Perspective", in the book Neural Correlates of Consciousness - Empirical and Conceptual Question.

Metzinger coins or uses the term “coherent self-model” as the foundation and basis for a first-person perspective, however I will propose that a coherent self-model based on information only, is an incomplete and therefore incoherent self-model. For the model to be a coherent self-model it requires the realization of The I AM Identity, the spiritual aspect of a human being or if the reader prefers Heidegger’s term the Being of a Human Being. This would be more appropriately called a coherent self instead of being labelled a model of self.

In the treatment of so called mental disorders (like MPD), the idea that there has to be a real someone based on declarative memory and personal history is on shaky ground in trying to understand the so-called mental disorder. It could be seen as a cop out, a quick fix, showing how little wisdom and spiritual strength contemporary secular humanity display when dealing with destructive behaviour and psychic suffering through drugs. Many human beings seem still to be spiritual infants with a sense of inadequacy and powerless to bring comfort and spiritual, mental, emotional and physical restoration to those ones who suffer so called mental disorders. Spiritual approaches identify certain important aspects of our being in relationship to Personality and Identity:

- Personality and Identity is different than discourse or self narrative.
- Personality exists without language.
- Equating information (personal history based on thoughts and emotions) to Identity may lead to confusion (DID or MPD, multiple personality disorder...) associated to the mental space of the person who identifies him or herself with his or her physical body or the physical body of other people. Usually this is associated with an extreme incoherent biological self-model presenting destructive behavioural patterns.

Therefore a treatment which seeks to bring coherence to the person based only on an informational self-model is at best a quick fix. It may ease the pain and deal with the destructive patterns present to the human only in the short term. Usually, these treatments are accompanied with side effects and addictions that are detrimental to the fundamental solution, the realization of The I AM Identity. These kinds of treatments should be avoided at all costs. To deal with the problem scientists need to take seriously the actual human being engaged with the world more widely and answerable for his or

her choices in it, in such a way that mental constructs arise for various purposes (Gillett, 2008).<sup>50</sup>

Even though Metzinger describes Identity and Personality as a relation instead of an attribute of a living spiritual being, he makes an important comment which could clarify these issues.

The first thing psychiatrists have to learn from philosophers is that an identity is not something you can simply have, like a bicycle or the color of your hair. From a purely logical point of view identity is not a thing or a property, but a *relation*: Identity is the most *subtle* of all relations, the relation in which every thing stands to itself. On the neurophenomenological level of description, however, we only see how this relation is *represented*, how it is portrayed on the level of an individual brain and on the level of the individual person's conscious self-experience. And in psychiatric disorders we frequently witness how this self-representational process can be damaged in various ways. But even here there is no mysterious thing or property - "a" personal identity - that is damaged or lost. What is changed are certain representational and functional properties in the central nervous system. (Metzinger 2008<sup>51</sup>, pp. 2-3)

From where I am, Personality and Identity is the gift of The Creator and reflects my place in a greater reality. It enables personal relationships therefore in that respect it is relational. Personality and I AM Identity begins and becomes conscious to the human only in relationship to God, The Creator of all personalities. Then, Personality is extended in transient or eternal relationships with other personalities existing in the universe. Thus Metzinger is partly right, it is relational however more than just to a self-representation. It is relational beyond oneself to the source of one's being.

Personality is the never changing reality in the face of a continually changing human experience. It unifies different aspects of the individual accounts of a human being based on personal history and declarative memory and in that sense bears witness to the coherent mind of a human being in expression and continuous interaction with his or her environment.

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<sup>50</sup> Being Somebody - Subjectivity, Identity and Neuroethics. See especially Chapter Eight (8).

<sup>51</sup> Why are Identity Disorders Interesting for Philosophers. Accessed online 22/6/08.

Identity is an attribute of Personality; human biological and psychological identity is continuously changing as in biological traits like the look, shape or size of the face or the body, the religious identity of a person who changes from one religion to another, the roles that a person plays socially that identifies him or her as an engineer, a politician or a bus driver, a person who changes from a chronic violent behaviour to a peaceful behaviour which identifies him or her as violent or peaceful, the gender identity and so on.

Spiritual Identity is related to the attributes of The Creator and it can only exist in relationship to The Creator, the sower of those attributes in Spirit and in Truth. Spiritual Identity is changeless because it is derived from the changeless Identity of The Creator and its expression can only be veiled by the accidents of human biological identity. A person by the agency of an enlightened mind can discern very clearly between his or her Spiritual Identity and his or her biological identity. Human biological identity and mind are the ground work for moral intuition, scientific understanding, sound philosophy, spiritual insight and the realization of a Spiritual Identity, The I AM Identity. They are a temporal structure. Human biological identity relates to Metzinger's informational self construct. Human biological identity is a vehicle of expression of the Spiritual Identity.

The work of Ramachandran and Metzinger is directed to find neural correlates of this construct and to prove that this construct is based on neural informational processing however Spiritual Identity and Personality as I have defined it (which can also be called Personhood) remains intractable to their research paradigm. They either ignore it from a materialist reductionist perspective or avoid the subject for being such a challenge to scientific research and understanding.

It is important to mention that questions like the one posed by Metzinger, "What - given an appropriate cultural context - are the necessary and sufficient conditions for us to first experience ourselves as being *persons*, identical through time?" is an inadequate one if the context is to be taken as the human context, because a person only exists in relationship to God first and then to other persons. This is because Metzinger equates personality or persons with functionality and Behavioural Values while in my observation personality is related to Spiritual Values and Spiritual Values based personal



relationships, Loving God and Loving Thy Neighbour. It is who you are to me instead of what you do for me that describes personal relationships.

At this point there are several distinctions and clarifications that I need to address as follows:

- Delusional misidentification is different than spiritual transformation or awakening.
- The Cotard Syndrome or existence denial is different than the disillusion of the construct of the biological informational self or biological sense of identity in that when the false construct of self fades away in a moment of spiritual awakening the person experiences a new sense of Identity, The I AM Identity which transcends the biological identity. The Identity of Existence is Existence Itself.
- Non existence is related to the lack of a Spiritual Identity, a failure to draw to one's soul and spirit spiritual substance, Spiritual Values and connection and communion with God as well as other spiritual beings.
- Personality is concerned with the transforming power of The Spirit in us the conversion of potentials into actuals, that which still is unspoken, unexperienced and unexpressed and that by the agency of Spiritual Values becomes known, experienced, spoken and expressed. This is different than a life narrative that is just a past story of something, which has already been experienced and expressed.
- Personality when realised is independent of changes in self expression and behaviours caused by the use of substances which can only harm the body (the vehicle of expression of a Spiritual Being in human form).

Metzinger poses a question, "Why are identity disorders interesting for philosophers?" he discusses patients with the Cotard Syndrome who seem to believe in their own non existence or that they have completely ceased to exist.

In this case the first lesson to be drawn is this: You can be fully conscious...and still truthfully describe the content of your own phenomenal self-experience as "non-existence". In other words, there are actual, nomologically possible representational configurations in the human brain, which lead truthful subjects into logically incoherent autophenomenological

reports. What is needed is a representationalist analysis of this target phenomenon, which can lay the conceptual foundations for a truly explanatory account on functional and neuroscientific levels of description.....I would propose that the difference in the phenomenal content in the transparent and *subcognitive* layers of his self-model can be aptly described by employing a traditional conceptual distinction, which is only available in the German language, but not in Greek (e.g., Homer only uses “soma” as referring to corpses), Latin (with *corpus* only referring to the body-as-thing, being the etymological root of the English term “corpse”) and other important languages like Italian, French, Spanish or English: The Cotard patient only has a bodily self-model as a *Korper*, but not as a *Leib* (see also Alheid 1968, and Enoch and Trethowan 1991...What is the difference? A *Leib* is a *lived body*, one that is connected to a soul, or, in more modern parlance, the body *as subject*, as locus of an individual first-person perspective. The body *as inanimate object*, on the other hand, is what the PSM in the Cotard configuration depicts. The Cotard-patient only has access to a *Korper*-model, but not a *Leib*-model. (2003a, pp. 455-457)

Metzinger relates everything to the biological individual as a living thing. Another traditional and different approach to the same would be accomplished by investigating the Hebrew texts of the Torah (Biblical Scriptures). There can be found the account of the Prophet Enoch “who walked with God and he was not”, he ceased to exist as a biological identity, however he exists as a spiritual being (What seems to me a cosmic joke is that one of these authors bears the name of Enoch). Another case is related to Yeshua (Jesus) where he gives account of those ones, who are already dead amongst the living human beings. In this situation Yeshua is affirming that a person is only alive in The Spirit and the body is devoid of consciousness of personhood (when unaware of The I AM Identity he calls the human, a dead human). Personhood exists only in reference to The I AM Identity.

Both stories coincide with the observations of Alheid, Enoch and Trethowan however they also present a difference because according to these Scriptures the living only exist in relation to an Eternal Spirit, a Creator with Personality. Those two situations when combined show exactly what is lacking in the Cotard patients, discernment of the existence of his or her Spiritual presence and Identity (as spiritually dead among the living) accompanied with the disintegration of his or her self-model, his or her biological construct of self.

Yeshua, for instance, in the context of the twenty first (21<sup>st</sup>) century would have shown an astute awareness about the Cotard patients and would have taught these people wise lessons about how to become spiritually alive to overcome the sense of non-existence,

this he would see as the fundamental solution instead of qualifying people with a label like “severe form of schizophrenia”, to justify a psychiatric treatment (quick fix) based on a promissory materialistic paradigm with a very limited understanding of reality, which confines identity to neural processes and neglects the spiritual needs of that human.

In synthesis, Enoch’s and Yeshua’s cases present significant distinctions between two different situations for a human being. The first (Enoch’s case) is a situation where the biological identity with his biographic history and related thoughts and emotions becomes irrelevant (the death of the behavioural self, the informational construct), while the human remains physically and spiritually alive in Unity or Oneness with God. The second (Yeshua’s case) refers to humans who are spiritually dead while physically alive (with a false sense of self, a Phenomenal Self-Model) with the possibility to heal and realize existence in eternity while in the flesh.

In the situation of what has been classified as a Cotard patient, what seems to be happening is that the human reports a condition where he experiences the death of the behavioural self, the informational construct, personal history as well as being spiritually dead while in a living physical body. Metzinger could be confusing the situation of the Prophet Enoch with the situation of a Cotard patient when he writes:

Philosophically speaking this would mean that what the Cotard patient claiming to be a dead corpse is truthfully referring to is the transparent content of his self-model, predominantly concerning the spatial, proprioceptive and emotional layers. This content portrays a moving *res extensa*, from the inside, closely resembling a living human person, but, as a matter of phenomenal fact, not tied to the logic of survival any more. (2003a, p. 457)

In the situation of the Prophet Enoch he exists with The I Am Identity with or without the need of linguistic expression, biographical history or biological self-identity, he is a God conscious human being for whom survival concerns are irrelevant. The Cotard patient, by contrast, is physically alive yet has lost touch with biographical history or biological self-identity (and lacks reference to The I AM Identity).

Both situations may be related to the activation and deactivation of certain areas of the pre frontal cortex, the limbic system and the centres for declarative memory. However,

the situation of the Prophet Enoch will also reflect a neural correlate to The I AM Identity with its engagement with the totality of creation, perhaps through electromagnetic and light wave exchanges and their counterparts in the brain, which would be absent in the Cotard patient. Although this underlying reality is still there even for a Cotard patient, they are still unaware and without understanding and comprehension of that reality. Under a spiritual paradigm he or she would be seen as a person in a spiritual crisis on his or her way back home so to speak, a person who is in the position to start to explore his or her Spiritual Identity to overcome this crisis identity and give up a fixation on his or her biological identity.

Metzinger later on in the same paper acknowledges this distinction when he writes, “To my knowledge there is only one other phenomenal state-class in which speakers sometimes consistently refer to themselves without using the pronoun ‘I’, namely during prolonged Mystical and/or Spiritual Experiences. What seems to be common to both classes is that the phenomenal property of selfhood is not instantiated any more...” which makes evident that Metzinger is aware of a distinction between the situation of the Prophet Enoch and the Cotard patient. The Mystic case has the person alive to their engaged reality yet somewhat indifferent about their biological, or psychological states.

Metzinger’s question can therefore be answered when he writes:

...Why would such a system stop using the pronoun “I” when referring to itself? The answer to this question would have to explain the phenomenon for two different phenomenal state-classes: Spiritual experiences and the Cotard delusion. (2003b)

The phenomenon of being in unity with God and walking in God’s Will is accompanied with a genuine understanding and realisation that the temporal structure known as the biographical, historical and biological self has fulfilled its purpose. It has become meaningless to the human whose identity is now centred in I AM, for which reason and in all Truth and linguistic honesty the person may say I Am the Love instead of I am Charlie (a meaningless label) and My Father and I are One. In the Torah (Biblical Scripture) there are descriptions of many situations where spiritual transformations and blessings from God are accompanied with a change in name reflecting the new reality.

In that sense Abraham Maslow would describe a person who walks in God's Will as a form of peak-experiencer with,

...a tendency to move more closely to a perfect identity, or uniqueness, or to have idiosyncrasy of the person or to his real self, to have become more a real person. (Maslow 1964, p. 67)

I will address that question in explaining the importance of this matter for a spiritual self realised human being with I AM Identity, a Mystic, a Prophet, a Tzadik and the integrity of his or her spoken word, an expression of his or her spiritual being.

It is important for me to clarify something that seems to be missing in Metzinger's statement when he writes: "Phenomenologically, both state classes are constituted by subjectless models of reality. On the representational level of analysis we find that there is no globally available representation of *self as subject*."

In my view, only one class is constituted by a subjectless model of reality, and this is the one of the so called Cotard patient. The Prophet is constituted by a subject whose Identity is a spiritual one and whose model of reality incorporates a spiritual subject so that his or her biographical self grounded on biological or genetic identity is of so much lesser importance than his or her identification with the source of all being as to be almost trivial.

I would like to close this section of the chapter with some final comments and remarks in a manner of highlighting some of the most important aspects that I have reviewed as well as placing some questions for further research.

1. Special attention must be paid to the word coherence, its different meanings in different contexts and its implications. This is because certain terms like spiritual coherence, autobiographical coherence, and psycho-biological coherence are very distinct terms however they are intimately related.
2. For example when accessing the global coherence of a human being special attention must be paid to all these areas because what may be perceived verbally as autobiographical coherence may be accompanied with spiritual chaos. However, sometimes what can be accessed verbally as autobiographic "sort of nonsense" can be accompanied with spiritual coherence.

3. Personality may exist without verbal expression or human language.
4. A hypothesis for research is that what has been classified as personality disorders based on biographical, genetic and biological identity is always accompanied with a consistent destructive condition or behaviour in the human being.
5. When a person claims him or herself to have a multiple personality disorder, this person must also be aware of his or her identity as a single person with a body with this condition. This is because that person has realised consciously this condition, and therefore the personality who claims that condition, may heal by disclaiming the other identities as his or her own. This only may happen when the person is aware of one or more personalities. This understanding can be useful in determining who is faking this condition to deceive other people by taking social advantage of this label for example to avoid a criminal sentence.
6. Can the so called Multiple Personality Disorders be associated to viruses, can it be contagious, can it be hereditary and genetically expressed in certain hostile environments, can it be inherited by organ transplant? Perhaps some of these can be psychosomatic conditions, the consequence of the brain being in touch with destructive thoughts akin to certain morphic fields. This means that this condition would be classified differently to a mental disorder, perhaps like influenza, something which can also be changed by the agency of the mind and Spiritual Values.

Now it is appropriate to move on to examine the idea of Personality or Identity as understood by somebody referring to him or herself and his or her spirituality by using a deeply resonant affirmation of The I AM. That affirmation goes beyond the illusion of self and identifies a person's activity as a moral centre of being in a connected universe of interpersonal activity and awareness. It also takes seriously the fact that humans are quantum beings whose brain is part of a quantum field and the forces operating within it.

# Chapter 4

## The Quantum Brain

Stuart Hameroff explores the idea of the brain as a quantum system whose connectedness to everything else in the universe is ill captured by a functional and classical computational understanding of cognition in service of biological survival. The only way to begin to understand the theories he proposes is to conceptually blend understandings of the quantum world with neuroscience in ways that loosens up the conventional boundaries of neuroscientific scholarship.

### 4.1- Hameroff and the Quantum Brain

The subject of Consciousness is intimately related to Self, Character, Identity, Values and Decision-Making. Amongst the leading scientists looking at the phenomenon of consciousness, Hameroff (University of Arizona in Tucson, Arizona) has proposed that the phenomenon of consciousness is more than just information processing in the brain and is mediated by microtubules and microstructures at a dendritic level, interfacing with the quantum domain of reality. He claims that his model and the work of Penrose have shed light on this subject with a rigorous scientific approach.

Hameroff has pointed out that many events perceived as conscious occurred with a significant delay from the stimulus presentation and to cope with these delays, preparation for action precedes sensory stimulation. For instance the preparation of a speech precedes conscious identification of the heard words and, in tennis, some of the movements needed to hit the ball take place before the ball and its location and trajectory are consciously identified. However, people feel subjectively that these happenings are conscious.

Another topic that he approaches in his research is the binding of visual shape, colour and motion as well as different modalities like sight and sound and temporal binding. This last pertains to synchronous events sensed asynchronously like in sight and touch.

He also approaches the binding phenomenon for allocentric, egocentric and interoceptive space and their unification in consciousness. This refers to the experience of unified conscious moments which integrate the external world, the personal point of view as well as body sensations respectively.

One of the main questions that he addresses is what distinguishes consciousness from unconscious brain activity (most of brain activity) and how does the brain produce subjective and phenomenal experience (qualia).

Hameroff's approach to consciousness is challenging for many scientists of different disciplines; however his research importantly poses the question of the relation of the conscious subject (the person) to brain processes.

I will refer to all contemporary approaches (perhaps unfairly) as classical functionalism. The implication is that if a robot were precisely constructed to mimic the brain activities which orthodox neuroscience assumes to be relevant to consciousness and perform functions which in a human being are associated with consciousness, then the robot would be conscious regardless of the material from which it was made...Consequently, classical functionalism deconstructs consciousness into an out-of-the-loop, illusory set of epiphenomena. While this might prove true, the view has developed as a default position due to lack of credible alternative and (I will argue) faulty assumptions. Presumed input-output capabilities of individual neurons and neuronal assemblies are tailored to fit the computer analogy, omit essential neurobiological ingredients and miss the target. (Hameroff 2008, p. 2)<sup>52</sup>

Hameroff argues that "classical functionalism" (as exhibited for instance, by Metzinger) fails to explain different aspects of consciousness related to subjective experience, volition, identity and conscious decision making and free will and so regards these as mere illusions and past perceptions instead of real time unified conscious perception.

Specifically, I will argue that axonal spikes and chemical synaptic transmissions are *not* the primary currency of consciousness, that electrophysiological correlates of consciousness derive from dendritic activities linked by window-like gap junctions, that glia are involved and that quantum processes in intra-dendritic cytoskeletal microtubules are the actual substrate for consciousness. (2008, p. 2)

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<sup>52</sup> "Consciousness, Neurobiology and Quantum Mechanics: The Case for a Connection."



Hameroff and Penrose developed a model called orchestrated objective reduction (Orch OR) based on quantum computation in cytoskeletal microtubules inside the brain's neurons which accounts better for the phenomenon of consciousness than the ones proposed by "classical functionalism".

He has mentioned that main stream scientists and philosophers critiqued their model based on poor evidence yet explains why and how their model is viable, based on evidence of brain temperature and quantum computations. He has also raised the possibility of neuronal interior existence in isolated, non-liquid, gelatinous ordered states and explained that communication between neurons is possible by the agency of quantum tunnelling mediated by window like gap junctions leading to hyper-neuronal configurations. Hameroff states his concern that their model has been disregarded when he writes: "Finally, Orch OR has been discounted because it differs so markedly from conventional approaches, despite being perfectly consistent with neurobiology."

The phenomenon of reality and consciousness and its neural-biological and quantum mechanic implications is a very complex subject and it is out of the scope of this review. However there are fundamental questions that Hameroff has raised which are of interest for this research. To name a few:

Is consciousness continuous or a sequence of discrete events?...If consciousness is a sequence of events, what is its rate or frequency? Can it vary?...What *are* conscious moments, why are they subjective and how do they relate to neurobiology? (2008, p. 4)

These questions are relevant for the study of The Brain of Melchizedek, because they refer to subjective experience and the possibility to act in the will of God experienced as a continuous phenomenon and in discrete moments. Hameroff offers a different view than Ramachandran's and Metzinger's reductive approach to consciousness and spirituality by incorporating quantum theory, light and electromagnetic waves and the micro structures present in the brain which interact with that domain of reality, to explain consciousness and being.

Hameroff notes that in the presence of certain events, time seems to "slow down" and inquires about the possibility that this experience could be related to an increase in the

rate of subjective conscious moments per objective time when consciousness is viewed as a sequence of events.

He also mentions the studies of Benjamin Libet and others in the 1960's and 1970's on awake, cooperative patients undergoing brain surgery with local anesthesia with the patient's brain exposed. Libet and colleagues were able to stimulate specific areas of the somatosensory cortex and record events corresponding to the skin of the hands of the patients. He found a delay of 500 ms from the moment of stimulation until the patients became conscious of the sensation associated to the hand. This was an interesting finding considering that when humans touch something this sensation is perceived consciously without delay, it seems almost instantaneous.<sup>53</sup>

In relation to this Hameroff raised the following question:

But if the neural correlate of conscious experience is delayed for 500 msec, how/why do we seem to perceive sensory events almost immediately? Are we *living in the past*, but remembering (falsely) being in the here and now, as Dennett suggests...? To address the question, Libet and colleagues proposed and tested a rather outrageous hypothesis—that the perception of a stimulus was indeed delayed for 500 msec of brain activity but subjectively referred backward in time to the primary evoked potential 10 to 30 msec after stimulus. (2008, pp. 8, 9)

To account for these observations Penrose appealed to quantum physics and he proposed that the brain is able to send unconscious quantum information backward through time.<sup>54</sup> According to quantum physics, time is symmetrical and bi-directional, this is because the quantum world is timeless or eternally in the present. This Penrose proposes happens through quantum entanglement which he calls “quanglement”. This quantum phenomenon is constrained by some causality violations, which may occur like going back in time to kill an immediate ancestor thereby preventing one's own birth.

This is extremely important because the experience of a Spiritual Value like Certainty or Love may be referred backwards in time before the onset of certain brain activity and therefore it poses another complexity in determining the neural traces of Spiritual Values, because Love may be subjectively received at a quantum level without any need

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<sup>53</sup> Other authors - e.g. Gillett 2008 have also questioned the method and its metaphysics.

for biological neural correlates or any association to visual or auditory perception. A person can experience Love without being able to consciously detect a physical source of Love or sometimes may confuse the source of Love with a physical human being's behavioural pattern until the brain develops a cognitive map capable of discerning its source.

Hameroff raised the following question in his paper:

Nonconscious backward referral of quantum information/quanglement which modifies existing information in the brain (e.g. adding qualia to primary evoked potentials, influencing choices) would not violate causality because the effects are unobservable before they occur.

Backward time referral of unconscious quantum information/quanglement in the brain could provide temporal binding and near-immediate perception and volition, rescuing consciousness from illusory epiphenomenon (i.e. enabling near-immediate conscious decisions based on sensory information referred from the near future). (2008, p. 12)

Finding neural traces for the experience of Spiritual Values, Premonitions, Prophetic Visions and Communication with God is closely linked to the question of how and why consciousness arises in the brain as a whole and how it can be detected and measured particularly during a Spiritual Experience. Also it is important to consider what aspects of the brain and neural activity give access to consciousness and particularly God Consciousness and how this is related to quantum entanglement.

In neuroscience it has been generally accepted that information flows from an axon which projects information via neurotransmitters across a chemical synapse to a dendrite or cell body of another neuron. This keeps on happening in a sequence of axonal neural firing after certain post-synaptic thresholds are met triggering action potentials associated to dendritic structures of post-synaptic cell bodies and this has lead many neuroscientists to the belief that consciousness is an emerging property related to this flow of information. Hameroff, Penrose and others like Pribram and Freeman have proposed other alternatives for understanding the Neural Correlates of Consciousness (NCC):

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<sup>54</sup> A different explanation is offered by Gillett, 2008.

However there are other cellular-level candidates for the NCC. Electrodes on the scalp or brain surface detect mostly dendritic dipole potentials from pyramidal cells with axial symmetry, i.e. oriented perpendicular to the brain surface...Electrodes implanted into the brain detect mainly local field potentials (LFPs) generated from cortical interneurons with radial symmetry, linked mostly by dendro-dendritic gap junctions and inhibitory chemical synapses. Thus synchrony in the EEG and LFPs derive not from axonal spikes but from dendritic activities. Moreover the BOLD signal used in fMRI, widely assumed to represent neural metabolic activity related to consciousness, correspond more closely with LFPs than axonal spikes...Some have argued...that the brain's complex electromagnetic field (manifest as global LFPs and surface potentials) constitutes the NCC. However as Koch...points out, the brain's electromagnetic field *per se* is a crude and inefficient means of communication...On the other hand, the dendritic activities that generate LFPs and/or surface potentials may indeed best represent the NCC. Eccles...as well as Pribram...suggested that dendrites host consciousness, with axonal spikes conveying the outputs of consciousness to other neurons, brain regions and initiating motor responses. (Hameroff 2008, p. 15)

All of these observations may lead us to consider that many of the assumptions pertaining to certain brain activity qualified as noise according to the traditional model based on axonal flow and memory may be an inadequate oversimplification to account for the real NCC and the same may apply to Spiritual Experiences and their neural correlates.

The understanding of hyper-neurons and gap junctions is crucial to the model proposed by Hameroff and Penrose. In this respect Hameroff wrote:

Gap junctions occur between neuronal dendrites, between axons and axons, between neurons and glia, between glia, and between axons and dendrites—bypassing chemical synapses. (2008, pp. 21-22)

He expands further and proposes that neurons connected by gap junctions are electrically coupled and that they depolarize synchronously behaving like one Big Neuron. About this he wrote: “Networks of gap junction-linked neurons (and glia) have been termed *hyper-neurons...*”

According to Hameroff the best electrophysiological basis for the neural correlates of consciousness is related to brain-wide gamma synchrony mediated by gap junctions leading to the possible conclusion that hyper-neurons are the cellular-level for the NCC.

This is very related, to the work of Varela and Buzsaki that I have already noted, pointing to large-scale integration and different brain area synchronization as a significant biophysical signature of consciousness.

After exploring quantum theory, superposition, coherence, decoherence and quantum computation Hameroff mentions that the Orch OR model suggests that quantum computation might be occurring in the brain and that it relies on both superposition and entanglement. He also proposes that microtubules seem ideal for quantum computation.

It is important to note that entanglement is a very interesting concept, which has been repeatedly confirmed and pertains to the fact that complementary quantum particles remain entangled even when separated. This means that when there is a change in one particle, regardless of how far they are in space, the other will change simultaneously. Entanglement could possibly be a first scientific approximation to the understanding of the Spiritual Value of Unity unexplained by physical connection.

Both Hameroff and Penrose coincide in suggesting that one of the consequences of this view is that consciousness and mind may exist at a subatomic level in the quantum domain, which may account for subjective experience.

Penrose OR describes events in fundamental spacetime geometry, the foundational level of the universe. Going down in scale below the size of atoms ( $10^{-8}$ cm) spacetime is smooth until the Planck scale is reached at  $10^{-33}$  cm where coarseness, granularity—*information*—occur...The Planck scale is approached in modern physics through string theory, quantum gravity, twistor theory, spin networks etc. Although the correct description is unknown, it *is* known that the Planck scale is quantized and nonlocal, and the level at which Penrose suggests quantum superpositions occur as separations, and where Platonic values exist. It is also at this ubiquitous level that proto-conscious qualia are proposed to be embedded...hence pan-protopsychism. (2008, p. 44)

This suggests that Spiritual Values, thoughts, quanta and the quantum field are intimately connected as part of the same one absolute potentiality of reality and it manifests in the matter field when certain states of consciousness (and associated brain processes) are associated with quantum wave function collapse (objective reduction).

J. J. Hurtak supports this view based on his spiritual paradigm of consciousness when he gives the definition of thought-particle:

A particle generated by a thought-form. Within the myriad experimental levels of the Lords of Light, a sub-quark can be conceived of as an elementary physical thought-particle. (1977, p. 607)

It can be conjectured that thought-particles are constructs or packages of energy waves or light geometries based on the otherwise inexplicable effect of the right kind of I AM thoughts on brain activity. So it is plausible that a thought could be conjectured to represent a quantum collapse into a determinate state and therefore be a wave change at some level, what is mind boggling and difficult to comprehend is how God's thoughts might produce a particle or particles whereas the idea of an orchestrated collapse of a segment of the quantum field into a determinate form is much easier to understand.

Finally Hameroff concludes by saying that Penrose's model (OR) represents consciousness and in relationship to this he writes: "The Orch OR model proposes that consciousness *is* OR. OR *is* consciousness." He also proposes that this model of reality has evolutionary advantages over the functionalist model and he expands by proposing the possibility that biology evolved and adapted to a pre-existing proto-consciousness. This is a view of reality that regards consciousness as arising from all levels of brain function instead of an emergent property of matter understood in terms of information and biological feedback systems. It is also compatible with the idea that consciousness is brought about by a complex engagement with systems of meaning and lifted to the level of spirituality when the meanings are spiritual. All of this complex understanding of the delicate fabric of reality may be showing the reader that all of life is spiritual, that all of life is sacred, that matter and energy are spiritualised and spirit is continuously materialised.<sup>55</sup>

Hurtak attempts to use that view to understand immanent spiritual worlds or realms and the possibility of a bond with the community of human beings that broadcast these

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<sup>55</sup> This view is compatible with both the thought particle view and the objective reduction view of the moments of conscious life. As Kelso and Tognoli put it, it is possible that "...complementary aspects and their dynamics were found not just at the level of the subatomic processes dealt with by quantum mechanics, but at the level of human brains and human behaviour dealt with by coordination dynamics." (Kelso and Tognoli 2007, p.41)

signals, and their associated feelings of Love, Compassion and Grace amongst others, to guarantee the survival of the species in a higher consciousness.

According to Hurtak:

Man lives in his garden of consciousness creation receiving knowledge from the divine template and recorder cell through a superholographic process.....Holographic organization shifts emphasis from axonal impulses to the slow potential micro-structure that develops in the post-synaptic networks. (1977, p. 445, vs. 47, 52)<sup>56</sup>

The possibility that The Creator of all and Proto-Consciousness are intimately related as if God created living creatures and beings to biologically evolve to find the image and similitude of The Creator in the creature suggests that perhaps Evolution can be redefined as the continuous transformation and transmutations of spatio-temporal structures until total unification with The Creator and His Spirit and field of Love, so that the power of consciousness and conscious thoughts becomes able to manifest humanity's full potential in the expression of supreme Values like Love and Truth related to the transcendence of the transient self or illusionary informational construct of self to the realization of the Spiritual and Eternal Identity, The I AM Identity.

As I have mentioned before what is important here is that a Spiritual Scientific Synthesis leads to new hypotheses about how the universe came into being and sustains itself and its order and how to relate through our Spiritual Beingness to The Creator in a manner that is appropriate to our own personal history, nature and genetic information.

A Spiritual Scientific Synthesis can presently be scientifically articulated and mathematically modelled with the aid of Quantum Brain Theory, Metastable Neurodynamics and Coordination Dynamics Theory.

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<sup>56</sup> He also writes:

The brain of man is part of the Divine Mind, and by decoding the human brain's mechanisms of memory storage in relationship to the universal language process, a higher hierarchical memory is revealed and Man discovers that he is a pulsating geometry of a Divine Language system. (1977, p. 454)

#### **4.2- Consciousness and The Connective Paradigm of Melchizedek**

To approach a Spiritual Scientific Synthesis to formulate and test new hypotheses to verify some of the relationships and dynamics between the Spiritual and Physical Domain of reality the need arises for new scientific paradigms and theories.

The paradigm that I am about to propose addresses different aspects on the study of consciousness. They are mainly:

1. The fact that the study of Human Character, Identity, Self, Subjective Experience, Spiritual Values and Decision Making is directly related to the understanding of human consciousness and God's Consciousness.
2. Most of the traditional scientific theories and methods and some of the philosophies that are emerging to explore and study what consciousness is and how it relates to brain processes may be incomplete as is shown by their difficulties with the very idea of consciousness.
3. New Scientific theories, paradigms and models are emerging to attempt and overcome these limitations.

Consider what Perlovsky has to say in relation to how important and delicate what I have called a Spiritual Scientific Synthesis is:

To summarize, differentiation and synthesis are in complex relationships, at once symbiotic and antagonistic. Synthesis leads to spiritual inspiration, to active creative behavior leading to fast differentiation, to creation of knowledge, to science and technology. At the same time, "too" high level of synthesis stifles differentiation. Synthesis is related to hierarchical structure of knowledge and values. At the same time, high level of differentiation discounts psychological emotional values of individual concepts, and destroys synthesis, which was the basis for differentiation. (Perlovsky 2007, p. 92)

Now we are in the position to explore the value associated with the Connective Paradigm of Melchizedek in the understanding of consciousness.



#### **4.2.1- Some Considerations about Consciousness**

This section of the chapter will concentrate on aspects one (1) and three (3). Aspect two (2) has already been addressed, and that discussion has exposed the limitations approaching the study of consciousness aided only with the tools of promissory materialism.

Even though they lack a systemic integrative approach that explicitly mentions and incorporates the Spiritual Domain of reality and The Creator of All, many scientists and philosophers amongst them believe that the hard problem should be approached.

For example John Searle has stated that with the advance of neuroscience, the scientific community is able to address and maybe solve the problem of consciousness. He has addressed some of the philosophical obstacles: "...we know that brains cause consciousness..." yet surely it can be asked, Is that because subatomic particles, waves, neurons, brains and physical human bodies emerged from God's Consciousness?

Scientifically however, these two statements make two distinct hypotheses, one that leaves out The Creator and posits matter as the cause of consciousness and the other a hypothesis where The Creator is the first cause of consciousness, matter, energy and life. Searle's views even though materialistic and very distinct from a paradigm inclusive of Spiritual Values and The Creator, give reasons why The Hard Problem of Consciousness should be studied. He mentions nine "obstacles".

Searle writes:<sup>57</sup>

My main message is that we need to take consciousness seriously as a biological phenomenon. Conscious states are caused by neuronal processes, they are realized in neuronal systems, and they are intrinsically inner, subjective states of awareness or sentience.

We want to know how they are caused by and realized in the brain. Perhaps they can also be caused by some sort of chemistry different from brains altogether, but until we know how brains do it we are not likely to be able to produce it artificially in other chemical systems. The mistakes to avoid are those of changing the subject

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<sup>57</sup> "How to Study Consciousness Scientifically" in Consciousness and Human Identity; Edited by J. Cornwell.

- thinking that consciousness is a matter of information processing or behaviour, for example - or not taking consciousness seriously on its own terms. Perhaps, above all, we need to forget about the history of science, and get on with producing what may turn out to be a new phase in that history. (1998, pp. 36-37)

The work I have cited implies that consciousness needs to be seen as a spiritual aspect of the human form. Conscious states are both internal and subjective and are manifested by the interplay of Spiritual Values and Behavioural Values which are expressed by humans and therefore they are related in some ways to brain processes and neuronal systems present in other organs like the heart. That approach openly accepts that God's Consciousness and Human consciousness are intrinsically related and therefore irreducible to the interaction of material or information systems and mathematical algorithms only, therefore necessitating a Spiritual Scientific Synthesis.

David Chalmers is a philosopher prominent in the dialogue surrounding consciousness and has expressed his concern about the limitations of the approach to infer the presence of certain conscious states through the study of neural functions: Studies of the Neural Correlates of Consciousness (NCC). He has asked questions like: What is meant by consciousness, and NCC's? How are they found? What can NCC's explain?

He has raised some fundamental issues about this approach that in actuality have been employed by many scientists, the main one being, if consciousness is reducible to the NCC's?

Regarding the second question - what is meant by a NCC, Chalmers has outlined some consequences of methodological empirical work in the field.

He writes:<sup>58</sup>

An NCC (for content) is a minimal neural representational system N such that representation of a content in N is sufficient, under conditions C, for representation of that content in consciousness. (2000a, p. 31)

He has made it clear that this definition is architecture dependent so that any change in the brain structures would disintegrate the relevant NCC. For example a small, localised

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<sup>58</sup> In his paper, "What Is a Neural Correlate of Consciousness?"

lesion may rule out any NCC previously obtained by the agency of the same brain (It follows that a new cognitive map would also change the NCC). (Chalmers 2000a)

Basically NCC's are dependent on each particular brain and the assumption is that nothing can change in the architecture of that brain without undermining the correlation between the supposed NCC and the associated conscious states. This has profound implications for the study of different individuals with different brain architectures and is also interesting in the light of neural plasticity - something that remains in operation throughout life.

Imagine that a person becomes aware of "God's Voice" and spiritual realities by the agency of a change in his or her mental map associated with the formation of new structures in the brain, then the NCC for that person's conscious states are different than before. This is because he or she has entered so to speak, a new (interactive and dynamic) realm with different states and different brain structures previously absent in the person's brain. This situation is different than a lesion and implies that different kinds of normal brains with very distinct brain structures, background consciousness (possibly God's Consciousness) and contents in subjective experience need to be regarded differently (and perhaps analysed using dynamic systems theory) to derive any meaning from their NCC's.

The point here is that a hallucination about God may produce the same NCC's in a person that it would produce in another when they actually are hearing "God's Voice". This is because the same brain structures may mediate two different kinds of experiences in different contexts, which means, that what is needed is what Chalmers calls a "finer grained criterion to dissociate these systems and to distinguish the core NCC from processes that are merely causally linked to it." However what is required according to the Paradigm of Melchizedek is a more interactive, connectional and dynamic systems analysis. For this to happen, many NCC's must be generated between the two different cases and systematically studied by means that range beyond current (internal or biologically constrained) neuroscience.

This reconceptualisation would be required to study the difference between Spiritual Values and Behavioural Values. For example if somebody wants to detect the presence

of a conscious state of Love accompanied with a nice tone of voice in contrast to a nice tone of voice covering for an angry state of consciousness or merely for a subjective feeling as if the person is in Love.

Thus the identification of an NCC may fail to reveal the connectedness of that NCC with a genuine (rather than merely subjective) source of value or spiritual power. As Chalmers himself nicely puts it:

It certainly does not follow that an NCC will yield an explanation of consciousness, and it is not even guaranteed that identifying an NCC will be the key to understanding the processes underlying consciousness. (2000a, p. 37)

However the search for NCC may lead to a better understanding of the brain in relation to consciousness.

Another team of scientists who have contributed to the study of consciousness and have proposed an alternative to overcome the limitations of NCC's are Evan Thompson and Francisco Varela. They relate consciousness to neural activity that can be mapped to large-scale emergent and transient dynamical patterns of brain activity in a context and as a result of a developmental history (both evolutionary and individual), an interactive mapping rather than one confined to particular circuits or types of neurons. All of this suggests that consciousness is intimately related to what happens between a person and their (total, holistic, interpersonal and quantum level) environment rather than just in neural processes.

Furthermore, they pose the idea that to understand the complex relationships between brain, body and world requires the application of Nonlinear Dynamical Systems Theory and that traditional notions of representation and computation are inadequate. Also they have stated that analysing or reducing the cognitive system into subsystems distort the reality of the integrity of the system limiting us to understand properly, brain systems that integrate body world interactions.

Another author who concurs with this view is Andy Clark who has also argued in favour of emergence, particularly in the area of embodied, embedded cognition. He has enquired about emergent phenomena which arises as a consequence of the coupling of

the brain, body, and the world and he argues that this needs new ways to study and explain it where a complementarity between traditional analytic approaches and dynamical systems to the understanding of the part and the whole, the organism and the environment. In this respect he writes.<sup>59</sup>

A successful cognitive science, I shall argue, will thus study both the larger dynamics of agent/environment systems and the computational and representational microdynamics of real neural circuitry. (Clark 1997, p. 103)

In relationship to mind and the question of whether it is internal in the body or externalised in the environment Clark and David Chalmers propose a new form of externalism where the environment plays an active role in cognitive processes. This they have called active externalism.

In these cases, the human organism is linked with an external entity in a two-way interaction, creating a *coupled system* that can be seen as a cognitive system in its own right...Our thesis is that this sort of coupled process counts equally well as a cognitive process, whether or not it is wholly in the head. (Clark and Chalmers 2008, p. 222)<sup>60</sup>

Basically this implies that neurons are embedded in brains, brains are embedded in bodies, bodies are embedded in societies and environments and all of these are embedded in the planet which is affected by the sun and so on. It also means that with simplistic statistical analysis and simple correlation between variables, scientists fail to describe the system's partial and global dynamics. In my view, this is a better model for the study and understanding of consciousness; even though the use of Nonlinear Systems Dynamics may be unknown to many scientists.<sup>61</sup> This approach to the study of consciousness provides the scientist and philosopher with the concepts of emergence, metastability and synergy as a consequence of systemic properties that are found in the whole. All of these imply that there are both upward and downward causation involved in the system's dynamics.

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<sup>59</sup> In his book, Being There - Putting Brain, Body, and World Together.

<sup>60</sup> In, "The Extended Mind." The Appendix chapter of Andy Clark's book, Supersizing the Mind - Embodiment, Action, and Cognitive Extension.

<sup>61</sup> For a deeper understanding of this subject the reader is referred to "7.2 Discussion - A. The Hidden Premise" on pp.128-138 of Mind Waves - An Introduction to the Philosophy of Cognitive Science, Andy Clark 2001 (USA: Oxford Uni Press).

Thompson and Varela write:<sup>62</sup>

Emergence through self-organization has two directions. First, there is local-to-global determination or ‘upward causation’, as a result of which novel processes emerge that have their own features, lifetimes and domains of interaction. Second, there is global-to-local determination, often called ‘downward causation’, whereby global characteristics of a system govern or constrain local interactions. This aspect of emergence is less frequently discussed, but has long been noted by researchers in the field of complex dynamical systems. It is central to some views about consciousness and the brain, and plays a key role in an important recent analysis that uses dynamical-systems theory to understand intentional action. (2001, pp. 418-425)

The study of Non-Linear Dynamical-Systems Theory to understand intentional action is beyond the scope of this thesis, however for a sound explanation on this subject the reader is referred to “Neurodynamics of Intentional Behavior Generation” by Robert Kozma. (2007, pp.131-161)

The Paradigm of Melchizedek takes this to mean that God’s Order is an emergent property of a community (system) in which each part of the system (each person) has a direct connection with God by the agency of Love and God’s Grace. Also, each part of the system (each person) is in perfect synchronization with each other by the agency of Love between them. As a result of this the brain and neuronal activity of each part of the system shows patterns that are in consonance with The Global Order. The Global Order affects the person, the person affects his or her brain and neural activity (downward causation) and also neural activity affects the brain, brain activity affects the person, the person affects The Global Order (upward causation).

One of the most important concepts to understand what kind of brain can provide a human being with the flexibility to act independently (as an autonomous being) whilst at the same time being perfectly coordinated and an integrated part of a Global Order (God’s Order) is the concept of Metastability which poses that the dynamics of segregation (fragmentation) and synthesis (integration) though opposite are also complimentary and can be modelled as a Non-Linear System which takes into consideration the coordination between non-linearly coupled oscillators when a break in symmetry happens in the relative phase equation of the system. This has profound

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<sup>62</sup> In their paper, “Radical embodiment; neural dynamics and consciousness.”

implications in the understanding of the brain's dynamics when we consider that the brain is both a conglomerate of specialized areas as well as a very interconnected and integrated organ. This also becomes relevant to understand how the survival cognitive map may coexist with a higher spiritual cognitive map of reality in a sort of metastable condition and in the context of what is known as coordination dynamics theory. For a full account of these concepts, principles and theories see Kelso and Tognoli<sup>63</sup> (2007, pp.39-59) and W. Freeman<sup>64</sup> (2005).

These dynamics and Self Organising System can be linked to Self Governance through connection with God's Consciousness.

If conscious cognitive acts are emergent phenomena, then accordingly we can hypothesize that they have causal effects on local neuronal activity, and therefore that it might be possible to observe the effects of a moment of consciousness and its substrate large-scale neural assemblies at the level of local properties of neuronal activity. (Thompson and Varela 2001, pp. 418-425)

This may also apply to moments of divine inspiration, revelation, artistic performance or scientific insight and means that a person may affect his or her own brain and neuronal activity by the agency of his or her thoughts to produce a change in his or her brain to affect a condition that for example could lead to a seizure. This could mean, for instance, healing by the agency of thought.

One can assume that such intervention is possible because the epileptogenic zones are embedded in a complex network of other brain regions that actively participate in mental life. (Thompson and Varela 2001, pp. 418-425)

Based on the same principal, a divine revelation in a human being can be catalysed when this human participates in a community of God Conscious human beings.

Systems Theory and Nonlinear Systems Dynamics gives a tool to formulate models to empirically test downward-upward causation in different hypothesis of consciousness.

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<sup>63</sup> "Toward a Complementary Neuroscience: Metastable Coordination Dynamics of the Brain."

<sup>64</sup> "Metastability, Instability, and State Transition in Neocortex", Neural Networks (2005).

Particularly this is useful in the context of understanding the embodiment and dynamics of Spiritual Values and relationships being to being (sometimes called intersubjectivity).

Thompson and Varela also write:

This affective dimension of organismic regulation, variously called 'primal consciousness' or 'core consciousness', could be called sentience - the feeling of being alive - understood as the inescapable affective backdrop of every conscious state....Sentience seems not be organised according to sensory modality, but according to the regulatory and affective processes that constitute the organism's feeling of self. (2001, pp. 418-425)

To me, this represents the consciousness of being life, also reflected or present in the statement that Yeshua Ben Yosef uttered around 2000 years ago, "I Am the Life." This is intimately related to the possibility for every human being to realise their Spiritual Identity, their I AM Identity, an identity constituted relationally by their embeddedness in a spiritual field that affects their cognition, the functional neural excitation patterns in their brain, the quantum states of their neurones and the words, concepts, rituals and disciplines, that mean something to them in relation to their spiritual lives.

Thompson and Varela have therefore suggested a better way to study consciousness and that is aligned with the present study of The Brain of Melchizedek.

In summary, the analysis so far implies:

- The inadequacy of the individualistic and materialistic approach to consciousness showing its limitations in the study of cognitive neuroscience aspects of consciousness and spirituality with any consideration for subjective experience, Spiritual Values and the quantum field and the complimentary aspects of the material and spiritual dimensions.
- The possibility of connectedness, interrelatedness and wholeness as understood in the complex relationships between the microscopic, mesoscopic and macroscopic levels of reality which basically implies that subatomic particles are the fundamental constituents for molecules which are the fundamental constituents for cells or neurons which are embedded in brains, which are embedded in bodies, which are embedded in societies and



environments, which are embedded in the planet, which is embedded in the universe, which is all part of God's Being and existence.

- A brain theory that is both functional as well as entangled with quantum states exquisitely sensitive to Orch (OR) as described by Penrose and Hameroff opening up the possibility to understand subjective and Spiritual Experience in relationship to the quantum field and its neural correlates.
- Consciousness as a matter of the whole and the relation between the whole and its (maximal) context instead of consciousness only in the (material) part which means both upward and downward causation and the complementarity of a bottom up and a top down conception of reality where the spiritual field, the quantum field, and the matter field are understood as a dynamical system describing the delicate fabric of reality.
- Orch (OR) and the possibility of connectedness with the whole of the organism's environment, in the world, the universe, in the Light of God, the All Inclusive Being in every being in the universe leading to a synthesis between cognitive neuroscience, quantum physics, social behaviour and spirituality.

#### **4.2.2- A Holistic View of Neural Systems and RSME**

Newberg and d'Aquili introduce the reader to the abstract concepts of cognitive operators which are associated with different parts of the brain and neurophysiological mechanisms which are the foundation for some categories of cognitive function. Some of these operators are: the causal operator, the holistic operator and the reductionist operator. Particularly the holistic operator is associated with the right parietal lobe and the reductionist one is associated with the left parietal lobe. Both the holistic and causal operators are associated with Spiritual Experience and its neural dynamics.

The authors describe an experience which they call Absolute Unitary Being (AUB) where all the perceived boundaries which in the person's sense of self (others and the universe), are dissolved by the agency of intense feelings of awe, peace, tranquillity or ecstasy. They say this can be attained mainly through two different avenues, namely group ritual and personal contemplation or meditation.

They also point to a lesser sense of oneness leading to the perception and experience of community, this being a by product of either practice, (in my view more associated to group rituals). These two practices in many cases overlap and strengthen each other and the authors emphasize contemplation and meditation as a personal and more powerful means to attain Absolute Unitary Being (AUB) than group rituals.

Equally importantly they have suggested that the experience of AUB for some people can be accompanied with blissful positive effects which in many cases have been interpreted as *Unio Mystica*, the experience of a Divine Being or God. The first one is an impersonal sense of absolute oneness while the second is a personal connection to a personal being.

What is interesting about these two scientists is that they have come up with an explanation, theory and neural dynamic models for this kind of experience. One concerns a passive mode of meditation that leads to the AUB experience by the act of the will of the meditator to clear his or her mind of any thoughts and mental interference; this is known as the 'via negativa'. The other model is based on an active meditation where the meditator engages on the contemplation of an external object or a symbol perhaps with a sacred meaning. This is known as the 'via positiva' to an AUB. The two models are described as positive feedback loops involving different areas and neural pathways in the brain like the left and the right attention association areas, the left and right orientation association areas, the left and right hippocampus, the left and right amygdala, arousal structures and the quiescent structures of the hypothalamus associated with the sympathetic and parasympathetic respectively.

In the case of 'via negativa' they describe a loop starting in the right association area to silence all thought impulses from the prefrontal cortex and that may inhibit the information coming from the right inferior parietal lobe to the right posterior superior parietal lobe (See Runehov 2007) and is related to the act of will of the meditator to be free from any thoughts generally speaking which will influence the right orientation area and that will influence the right hippocampus which will influence the right amygdala, which will influence the quiescent structures of the hypothalamus resulting in an initial sense of relaxation which will feedback via the left and the right loops of these areas resulting in more and more profound quiescence through a process of gradual (functional

or dynamic) deafferentation starting with the right orientation area from the sensory areas and from the verbal conception association areas that when it reaches a certain threshold will result in a term that they have called ‘spillover’.

The ‘via negativa’ and the ‘via positiva’ are very similar, with one of the distinctions being that the ‘via positiva’ includes the visual association area and at a certain point in the feedback loop when ‘spillover’ occurs the brain needs to deal with the stimulation generated by focusing on the object of meditation where there is still afferentation happening, until this is overcome after a period of total self identification with the object of meditation. The process of total deafferentation in both cases leads to the disintegration of the self-other dichotomy.<sup>65</sup>

All this involves the autonomic nervous system both the sympathetic and parasympathetic as well as the associated brain structures for both branches namely the ergotropic and trophotropic system that usually operate in opposite directions, meaning an increase in activity in one is associated with a decrease in activity in the other. The potentiality concerned characterises the baseline emotional make up in which people operate in the world, whether stressed or relaxed.

Newberg and d’Aquili have observed that in certain situations where either system is driven to its maximal capacity, it can induce a reversal in the activity of the other system producing activation instead of deactivation. This they call ‘spillover’ and associated to these dynamics they have described five categories of ergotropic and trophotropic events and their association with sensory experiences, related to extraordinary moments of consciousness.

These categories are:

- The Hypertrophotropic state leading to quiescence.
- The Hyperergotropic state leading to high alertness and the absence of random thoughts.

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<sup>65</sup> For detailed information about these models the reader is referred to Eugene d’Aquili and Andrew B. Newberg, The Mystical Mind - Probing the Biology of Religious Experience, 1999 (Chapter Six, p. 109 -116).

- The Hypertrophotropic with ergotropic activation leading to a sense of immense bliss accompanied by a tremendous release of energy.
- The Hyperergotropic with trophotropic activation leading to an intense ecstasy resulting in a trance like state.
- Maximal of both ergotropic and trophotropic leading to the total breakdown of boundaries, timelessness and the disintegration of the self-other dichotomy (associated with intense mystical and spiritual experiences). (Newberg and d'Aquili 1998, pp. 72-94)<sup>66</sup>

Newberg and d'Aquili have described the similarities and also have made a very clear distinction between the two forms or modalities associated to an AUB experience, where they ascribe the experience of a connection with God to prophetic religions or traditions such as the Jewish, the Islamic and the Christian traditions, this they describe as mystical. On the other hand they relate what they call the numinous to philosophies and traditions like Taoism and Buddhism which are described by a sense of oneness void and pure consciousness.

Anne L. C. Runehov<sup>67</sup> has analysed and critiqued Newberg and d'Aquili's research by describing the models of 'via negativa' and the 'via positiva' and looking at their conclusions and experimental results. She suggests that the four conclusions that Newberg and d'Aquili have reached in their studies are partially accurate and weakly substantiated by experimental data.

The following conclusions are at stake, (1) Absolute Unitary Being is the invariant element across all religions, (2) all experiences are equal, (3) Absolute Unitary Being or God really exists and (4) mind and brain are complementary. (2007, p. 157)

She remarks that one weakness of their studies is the hypothesis that the AUB experience correlates to the total deafferentation of both the left and the right posterior superior parietal lobes (PSPL) a claim that was hardly confirmed experimentally where only a tendency towards deafferentation was shown, also she says some neuroscientists maintain that total deafferentation of the left and right PSPL is impossible (pp. 158-159).

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<sup>66</sup> In, Handbook of Religion and Mental Health, edited by Harold Koenig (1998).

She also points out to the fact that Newberg and d'Aquili's work lack clarity in explaining the difference between an impersonal state of absorption and oneness and the personal experience of being in communication with God which in her view means very different things across cultures and traditions.<sup>68</sup>

She does acknowledge that several correlations between religious experiences in the brain were confirmed at least partially, and that they did discover a "difference in thalamic values at baseline between the meditators and the non-meditators." According to Newberg and d'Aquili these studies need further research into why this is so. Finally, she notes that there might be certain implications as to whether some people are born with more propensity than others to an AUB experience.

This...could imply that not all people have the potential to have certain religious experiences, which could have the theological consequence that some could interpret this as *few are chosen* to reach Absolute Unitary Being or God. This really is a shocking thought. (2007, p. 193)

Notice that her analysis resonates with the saying "Many are called and few chosen" (even though recognising the chosen may be difficult in some human contexts). The real possibility this work opens up is that the call may take many forms including the call associated with religious symbols and icons and that different types of brain structure may enable people to respond to the call in their own way so that such variations have the potential to cause misunderstanding and misrecognition unless the ongoing transformation of the individual in the presence of the source of that call induces a state of being Love.

In my view one of her valuable conclusions is that religious experiences can be considered both sacred and neural and they must take into consideration both the experiencer subjective description, and neuroscientific research as well as other factors coming from different disciplines such as psychology, theology and sociology to name a few. She states that both her own work and the work of Newberg and d'Aquili coincide

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<sup>67</sup> In her book, Sacred or Neural? - The Potential of Neuroscience to Explain Religious Experience. (2007)

<sup>68</sup> For a detailed description of her critique on Newberg and d'Aquili, see Chapter Six of her book.

in this assessment, however Persinger's conclusions differ in that he maintains that religious experiences are fully describable and represented by neural activity.

#### **4.2.3- Breaking the Mould of the Restrictive Model of Promissory Materialism**

This is a useful starting point to expand on The Brain of Melchizedek in that it is more comprehensive and inclusive than the work of Ramachandran and Metzinger in describing Spiritual Experiences and their neural correlates and overcomes materialistic prejudices. Newberg and d'Aquili consider the different behaviours and practices of meditators, Mystics and religious people, formulating models and a theory about the dynamics of different brain systems along with the autonomic nervous system and they have tested some of those models with empirical data referenced to the neural basis of Spiritual Experience. (1998)

However, I will propose that this is just the beginning of the story for a brain which is wired to hear the "Voice of God". What Newberg and d'Aquili have proposed is a model which may explain the disillusion of behavioural boundaries through the agency of Spiritual Values where by the application of certain tools and practices the person triggers a certain brain pattern which gives him or her access to Values like Unity, Truth, Love, Grace or how they described it bliss, ecstasy, peace and so forth.

I will propose that along with such a transformation in the cognitive map and the resulting perception of reality a large scale integration through synchrony of neural assemblies may be triggered which may also lead to the synchronization and entrainment of other body oscillatory systems like the heart, the respiratory system and the digestive system. Newberg and d'Aquili have left these out of their model for spirituality, something that McCraty and Doc Childre have taken into consideration in their research (Childre and McCraty 2001<sup>69</sup>).<sup>70</sup>

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<sup>69</sup> "Psychophysiological Correlates of Spiritual Experience."

<sup>70</sup> For more on this subject see Appendix B, Emotional Function (Electrophysiological Coherence).

**The Connective Paradigm of Melchizedek** begins to appear to be the foundation to the study and understanding of the Interplay between the Spiritual and Physical Domains of human consciousness by the agency of Spiritual Values.<sup>71</sup>

#### **4.2.4- An Introduction to The Connective Paradigm of Melchizedek**

This paradigm proposes as the foundation for the research of the hard problem of consciousness that the acceptance of The Creator, The Physical Universe and each Being with Consciousness (Actual or Potential) of Character, Personality and Identity in Eternity, are ONE inseparable life and that spirituality is a kind of connectedness.

God Consciousness for a human is attainable in his or her human life and is derived from an intimate communion and constant attunement and communication with The Creator and life in large, The Universe.

The word Melchizedek has its origins in Hebrew, it means King of Righteousness and it is associated to a person who lived around the times of Abraham, the father of Isaac who was the father of Jacob (Israel), father of the Twelve Tribes of Israel.

Melchizedek, was also known as The King of Salem, which means The King of Peace. He Blessed Abraham who became a man who established a covenant with God. By this covenant countless people would be blessed and find eventually collective peace and harmony.

The aim of The Paradigm of Melchizedek is that it creates an understanding by which humanity may find collective peace<sup>72</sup> under God's Government and God's Consciousness.

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<sup>71</sup> However it is recommended that the reader at this point read Appendix B which deals with the Implications for Cognitive Neuroscience - the Cognitive Functions, Emotional Functions and Executive Functions.

<sup>72</sup> The process of Peace Propagation to the attainment of Global Peace can be modelled in a similar manner presented by Perlovsky as the "Evolutionary Dynamics of Consciousness and Culture" based on the "Neurodynamics of

Because the word **Melchizedek** means **King of Righteousness**, the **Kingdom of Righteousness** may be described as a Global Community of Peace integrated by Righteous people. Hence the definition of a **Tzadik** (righteous person) as stated in previous chapters relates to a Righteous Experience (God Conscious Experience) of life and is associated with the status of Sonship or Daughtership with The Creator as The Father-Mother of All. Sonship or Daughtership is better defined as a state of being in unity with God and the attainment of God Consciousness, I AM Identity.

A Tzadik may be regarded as a genderless spiritual personal being who is identified with the Highest Survival Values, and has access to eternal life still in Human form.<sup>73</sup>

This paradigm is intended to lay the foundations to address scientifically the following questions amongst others:

- How can this happen to humanity (Global Peace and Harmony)?
- What are the conditions at a mental level and which neural-genetic dynamics are associated with these conditions?
- What kind of lifestyle, diet and behaviours could be conducive to this outcome?
- What kind of thoughts may lead a human to establish communication with God?
- What are Spiritual Values and how can scientists detect their presence and influences?
- At which level of reality do Spiritual Values interface with neural activity?
- How are Spiritual Values associated with electromagnetic fields?
- How much time is required to bring humanity to Harmony and Peace?

Every human being is a child of The Creator with the potential for Sonship or Daughtership therefore he or she is neurogenetically coded to hear the leading Voice of The Spirit in him or her and respond with his or her free will. This is very different than

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Differentiation and Synthesis". (Perlovsky 2007, Neural Dynamic Logic of Consciousness: the Knowledge Instinct, p. 91)

<sup>73</sup> The reader is referred to Appendix C for a brief introduction to the neuro-genetics of spirituality and the dynamics of Peace Propagation.



what has been proposed before by neuroscientific research which has only dealt with Spiritual Experiences as mystical states and feelings of ecstasy, peace or transcendence. It means that any human being may be transformed by the agency of Spiritual Values, changing the survival-based behavioural cognitive map into a new cognitive map of reality with connectivity to new meanings and the ability to be conscious of and respond to God's Order. In other words, the interplay between Spiritual Values & Behavioural Values in human consciousness may lead to God Consciousness by the delicate transformation of the survival, fear based boundaries in the human brain, a change in perception of reality. **This is a revelatory process** according to some of those who approach the issue without making the secular assumption.

In this regard in The Keys of Enoch, Hurtak writes:

The progressive "seeding" of divine images takes place through spatial phase relationships (three-dimensional networks of expanded neurons) which work as super-holograms emanating from a template. This seeding is necessary as the program changes and is updated. Holographic organization shifts emphasis from axonal impulses to the slow potential microstructure that develops in the post-synaptic networks. In man, given the neural hologram, these steps lead to "image constructions" of the "seeds of Light". (1977, Key 3-1-1 p. 445)

This is directly related to Hameroff's Quantum interface through dendritic networks and microtubules and microstructures and Pribram's Brain Holonomic Theory (previously mentioned) with the concept of holon that I will explore in this chapter.

A **Tzadik** exists with a Universal Paradigm and a cognitive map tailored to the embodiment and expression of the Spiritual Values of The Creator. This connectedness links them all to One common Origin, One Universal Family and re-spatializes human consciousness to comprehend cosmic realities through new and unknown states of consciousness to the human until then, leading him or her to the desire to do good and God's Will.

Therefore this paradigm highlights the relevance of the role of personal revelation and its neural implications.

This posits a radical transformation of theory of consciousness.

#### **4.2.5- Self, Character, Identity, Personality and the brain**

Self, Character, Identity and Personality as studied in psychology are locked in to the individual survival paradigm - personality as a relatively stable set of psychological dispositions that help explain and predict an individual's behaviour and it is regarded as jointly derived from genetics and upbringing or learning history. Character is then seen as a quality related to that set of inner states and identity as given by the distinctness of one's own set from that of any other person.

I will use Personality to refer to one of the biggest mysteries of life, to a degree something incomprehensible and unexplainable in that it represents, from a spiritual point of view, the gift of The Creator to the creature and it can only be preserved in eternity in relationship to its giver.

Personality exists potentially and actually only in relationship to the mind of the creature that evolves from self consciousness to God's Consciousness. This goes beyond modern psychology and also beyond Metzinger's theory of human biological and purely notional identity. Spiritual Personality and Identity pertains to the Image and Similitude of The Creator in the creature in terms of Spiritual Values so that any transient identity is a temporal structure until the creature attains full identification with the Values of The Creator, The 'I AM Identity'.

Personality and Self enable a human with the capacity to identify him or her Self with certain attributes or roles, hence social identity. When these attributes are purely biological or informational, like gender, profession and nationality then identity is transient, behavioural and relative. However a person is transformed spiritually, The I AM Identity, which is absolute and changeless becomes manifest. Note that in order even to recognise that possibility there needs to be a departure from promissory materialism into the paradigm here being outlined.

A Personality which is unified with The Creator and attains to divine identity is a self conscious and to a certain degree self determinative and creative personality. The human self initially, has transient personality and identity. The Paradigm of Melchizedek

implies that he or she can be liberated from the limitations of antecedent causation into eternal destiny, sometimes also with creative powers and dominions to affect energy and matter, for example walking on water or changing water into wine. This is a human being who has changed his or her internal structure and cognitive capabilities and identity even though its level of organization, his or her organism remains practically the same, a human body. Varela and Maturana notice that, logically, that can only happen through Divine Intervention, hand in hand with autopoiesis and autopoietic systems.

Nonetheless, we evidently cannot break away from this circle and step out of our cognitive domain. It would be like changing – by divine fiat – the nature of the brain, changing the nature of language, and changing the nature of our becoming. We would be changing the nature of our nature. (1987<sup>74</sup>, p. 241)<sup>75</sup>

Liberation from antecedent causation implies release from survival fears and needs, and one's own unconscious reactions towards others, the coercion of the environment, relying on feedback for external approval, action and the need for recognition of self. This liberation leads to conscious action and moral and spiritual associations with others yet is prevented to be even a genuine possibility when limited to the posits of promissory materialism.

Minds liberated to connectedness with the Truth of their being are sensitive and responsive to the logical understanding of cause and affect through scientific inquiry and mathematical modelling and also sensitive and responsive to moral reasoning and the discernment between adequate or inadequate action in different contexts (all these results the reader could attempt and account for in a materialistic paradigm) however most important is their capacity and sensitivity to the worship and communion with The Creator and their ability to relate being to being informed by Spiritual Values.<sup>76</sup>

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<sup>74</sup> The Tree of Knowledge - The Biological Roots of Human Understanding Revised Edition.

<sup>75</sup> It reminds me of the words, "I Am the nature of the being which elevates life to light", as written in Paradise Landing. (131 **ישוע** 888, p. 23)

<sup>76</sup> For more on morality and spirituality the reader is referred to Appendix A.

The possibility of developing a well balanced character grounded in the unification and coordination of the knowledge of the physical universe, moral duty through reasoning and the experience of a spiritual life full of meaning in relationship, communion and worship with The Creator takes us beyond any psychological and moral theory available within promissory materialism because, *ex hypothesi*, that can only encompass what is visible through survival-oriented faculties. By contrast, The Paradigm of Melchizedek implies that a human being through his or her spiritual, moral and scientific faculties is able to have an insight of any particular situation before acting or experimenting with life. An animal acts with the limitation of his motor trial and error learning only. Humans in general are able to act in alignment with values and with the guiding force of a vision, a meaningful desired reality, something that an animal lacks.

These notions have been well documented and researched and human beings have often been distinguished from animals because they are capable of rational thinking, symbol manipulation, and awareness of self, and in connection to this, creativity, mental simulations and the capacity for planning. In this respect Murphy and Brown have come up with some specific points in support of that view as well as dispelling some of the arguments against free will. They write:

...the most important step, which separates (older) children from animals, is development of the ability to evaluate one's own actions and, especially, one's *reasons* for action. This begins with evaluation in light of conformity to parents and peers, but ultimately in terms of reasons, goals, and values that can be expressed only via symbolic language. (Murphy and Brown 2007, p. 286)

They contend that human behaviour is shaped by motives which hand in hand with scenario analysis through the capacity for language and symbol manipulation make humans a distinct and interesting species, a conscious organism. This capacity for well thought decision making and action is more related to the person than to the environment which raises the issue of personal responsibility.

In everyday life, in moral discourse, and in legal practices, we in fact judge whether people have acquired the capacity for responsibility, and by that we mean not total responsibility but rather that they bear the *primary* responsibility for their actions and decisions. Dynamic systems act from their own point of view, but based on history. (Murphy and Brown 2007, p. 290)

This poses a dynamical system between a person and his or her community based on constructive intelligence and harmonious interactions, which leads to a potential synergy between cognitive science and ethics, morality and spirituality. Regarding the integration between cognitive science and ethics Clark has commented:

The attempt to formulate a joint image of moral cognition helps correct the historical biases of each tradition. The ethicist is asked to think about the individual mechanisms of moral reason. The cognitive scientist is reminded that moral reason involves crucial collaborative, interpersonal dimensions. (Clark 1996, p. 124)<sup>77</sup>

This brings us back to the subject of personality and awareness of self, and the difficulties of reconciling a moral self based on Behavioural Values with a Spiritual Self, a Spiritual Person attuned to the Universe and God's Mind. So far we have explored in previous chapters the theory of personality according to the different views of different psychologists, all of them have a contribution to the understanding of Self, Character, Personality and Identity. Some of them like Freud and Skinner have contributed to the understanding of the nature of conditioning, instincts, moral action and behavioural responses as personality traits. Others like Jung and Maslow have provided an understanding of personality and self in a form of connectedness with the larger whole and universal and organising principles as well as Spiritual Values.

More recently Joseph R. Royce and Arnold Powell<sup>78</sup> have proposed a general and more integrated theory of personality and individual differences incorporating the most relevant findings from experimental and correlational psychology, an integrative approach which incorporates factor theory, systems theory and information-processing theory as well as relevant empirical findings from a diverse range of areas. One of the main features which makes this theory more comprehensive than other theories of personality is the treatment of cognition and the central role it plays in personality, and its organisation, and they have weaved this synthesis with affective processes to explain the behaviour of an integrated human being and his or her individual characteristics.

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<sup>77</sup> In his paper, "Connectionism, Moral Cognition, and Collaborative Problem Solving." In, Mind and Morals - Essays on Ethics and Cognitive Science, Editors Larry May, Marilyn Friedman and Andy Clark.

They describe personality as a system, an integrative process of sub-systems in constant interactions, touching for example on cognition, value interactions and belief systems and their relationship to emotion, worldview, lifestyle and the concept of self. They also explain the cognition-affect interaction and emotion in attempting a synthesis for research about thoughts and feelings to make progress in the understanding of the interplay between them. They have conceptualised personality as an organised hierarchy where the higher level of the hierarchy is concerned with personality integration being related to the deeper levels of personality.

Here personality is conceptualised as a goal-seeking system with an evaluative component to assess successful actions where the highest level of the hierarchy is concerned with meaning, particularly personal meaning, and is regarded as a function to be optimised. This function may involve lower level goals or perhaps restrictions in a lower level of the hierarchy in terms of worldviews, images of self, and lifestyles.

This level of the hierarchy is seen as interacting with systems like the style and the value system, where the style system is concerned with the empirical, rational, and metaphoric aspects of personality and the values system is concerned with intrinsic values, self and social values. These two sub-systems also interact with the cognitive and the affective subsystems, one concerned with perceiving, conceptualising and symbolising and the other one with emotional stability, emotional independence or introverted/extroverted traits. The cognitive and affective subsystems are in constant interaction between each other as well as both the highest level of the hierarchy and the lowest level of the hierarchy, which incorporates the sensory and motor subsystems and their integration.

This last level of the hierarchy is concerned with spatio temporal events that shape personality. This way of representing personality allows the authors to describe the different aspects of self and the knowledge of reality in three ways of knowing or cognising reality, three paths to knowledge:

- Empiricism which is governed by perception.
- Rationalism which is shaped by conceptualisation.

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<sup>78</sup> See their book, Theory of Personality and Individual Differences: Factors, Systems, and Processes.

- Metaphorism which is grounded in symbolism.

In their model these three paths to knowledge meet the barrier between human kind and ultimate reality which can be seen as a form of pluralism or monism. Perhaps the complimentary nature of both monism and pluralism describes better the nature of ultimate reality.

...each of the three ways of knowing leads to an image of reality that is projected across the epistemological barrier. Reality image refers to a person's organized set of cognitions concerning "how things are." The cognitive system produces these cognitions in the form of percepts, concepts, and symbols. As a result of the interaction between the cognitive and style systems, these percepts, concepts, and symbols are organized in a "meaningful way," and this meaningful interpretation of "the way things are" is what we mean by world view, or reality image. (Royce and Powell 1983, p. 195)

Because this theory of personality is a systemic one and because it provides a subsystem for values, this subsystem could incorporate both Behavioural and Spiritual Values as a complimentary pair which can serve both to model personality transformations as in the manner of spiritual transformations and the loosening of the barrier between individual and ultimate reality regarded also as a complimentary pair. This conception can be supported by non-linear brain dynamics and quantum field theory.

This kind of modelling goes hand in hand with the views of Carol Raushe Albright about spiritual growth, cognition and complexity, and faith seen as a dynamic process where spiritual transformation plays a major role in personality reorganisation and development in the context of cognitive neuroscience. She suggests, "that spiritual transformation and spiritual growth may be understood within the context of a scientific theory...", (Albright 2006, p. 168) a paradigm which incorporates self-organisation, complexity and emergence, and where "mind and brain can be said to *embody* our spirit...as what we might call a psycho-somato-spiritual entity." (2006, p.175)<sup>79</sup>

Albright describes spiritual growth in the childhood, youth and adult phases of a human as being mainly dependent on genetic factors, brain maturation and learning in the early

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<sup>79</sup> See her paper, "Spiritual Growth, Cognition, and Complexity: Faith as a Dynamic Process."(2006)

years of life and towards adulthood it relates spiritual growth to opportunities and experiences or crises, a transition which is accompanied by turmoil towards personality reorganisation. These ideas go hand in hand with Philip Hefner's ideas about spiritual transformation and healing already mentioned in a previous chapter.

A human with The Brain of Melchizedek is able to be thought of as acting out of an attunement with the underlying value and powers operating in a given situation according to the word of life.

This complexity and mystery makes it useless to attempt to understand or explain self and personality from a pure biological perspective that reduces it to neural structures and informational representation and processing as in Metzinger's self-model theory of subjectivity (2003), or that of Damasio who writes:<sup>80</sup>

...however, since I regard *both* mental patterns and neural patterns as biological phenomena. The level of complexity of the two kinds of phenomena is different but their substance is the same—a biological substance)...In short, solving the problem of consciousness consists of discovering the biological underpinnings not just of the mental patterns of an object but also of the mental patterns that convey the sense of a self in the act of knowing, *such that an owner-based unified perspective can be created regarding events occurring within the organism and in its surroundings.*(2000a, p. 111-112)

It is important to emphasize that equating self to a neural construct creates confusion between information processing and the kind of consciousness that must be posited to even allow that it is possible to examine spiritual reality. The very possibility that God's Consciousness (the totality of consciousness) lays the foundations and supports the information processing of different living systems and expressions of life forms, with their unique perceived boundaries and elements of expression is ruled out by unquestioningly accepting the materialist assumptions and that leads to paralysis when a human is confronted with the inadequacy of biological and informational constructs to explain Character, Identity, Self and Personality even though the study of these aspects of human life and biology may support and shed light on those aspects of consciousness concerned with spiritual life.

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<sup>80</sup> In, "A Neurobiology for Consciousness."



I have described a “Healthy Blessed Seizure” as part of the chain of events that could relate to the neural basis of a Spiritual Experience. I am also suggesting that the proper preparation in prayer and the genuine desire to listen to the “Voice of God” (the via positiva) and the readiness to act according to the will of the Ultimate Value Giver will produce a synchronization with the prefrontal cortex, and a large scale integration of different areas of the brain facilitating a healthy blessed seizure like effect. This Synchronization could then provide the neural conditions required to unfold one’s own Spiritual Identity and the ongoing embodiment of Spiritual Values.

The synchronization of many brain structures allowing large scale integration of the prefrontal cortex, the limbic system, the autonomic nervous system and the heart, is plausibly the inner condition predisposing to a sense of connectedness as discussed by Newberg and d’Aquili.

This I propose as the starting point to the exploration and understanding of The Brain of Melchizedek with the aid of The Connective Paradigm of Melchizedek.

Recall that a Spiritual Experience is different than the embodiment of Spiritual Values accompanied with Spiritual Identity and that a human being is a combination of an animal and a spiritual being and can only become conscious of God’s Mind and “Voice” when the proper spiritual conditions are fulfilled in his or her life. These conditions enable a cognitive map that gives access (with the brain and heart working in unison) to a global awareness and perception of the dynamic interplay between the Physical and the Spiritual Domains.

Such a mode of functioning requires the development of an evaluative system in the orbito-frontal cortex and its intimate relationship with the limbic system in the process of emotions, both in verbal and non-verbal communication. Also, it requires the exploration of the interaction between the Temporal Lobe and the Prefrontal Cortex and their relationship to Physical and Spiritual Identity respectively. These would be to find neural traces of such interactions and such a research could be approached on the basis of a clearer distinction between Spiritual and Behavioural Values.

Also recall that a Tzadik is a human being whose attention of Identity, Character and Personality has shifted to the Spiritual Values that he or she embodies. His or her Memories and Personal history are stored through the agency of fields, electromagnetic and light waves. The question for research is what are the neural traces or interfaces of such fields for a fully realized spiritual being in human form? What does the brain of these spiritualized humans look like? And what are the genetic implications for the human species? How is the DNA of the species altered by such an order of consciousness?<sup>81</sup>

People may respond to these matters in different ways according to their order of consciousness yet the methods of study should avoid presuming to change the conception of what is being studied to accommodate or force a materialistic assumption.

An open-minded study must be prepared to deal with Spiritual Values, Character and Identity, and Neurobiology examining different aspects and dimensions, both internal and external, spiritual and biological, of the life of a human being and documenting their influence and the organization of the brain systems at a neurobiological level.

That approach leaves us with some intriguing questions for further research.

1. Which kind of brain structures and dynamics are associated with the heart and respiratory systems that contribute or foster the transformation of a human being from the identity of biological processes (neural activity in space-time) to their Spiritual Identity. This means, which brain and bodily systems mediate the removal of the veil to The Creator's existence through the harmonious interaction of the person in the created world?
2. Which neuro-genetic chemistry is associated with the dissolution or transformation of the purely behavioural, survival human map of identity by

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<sup>81</sup> Perlovsky has explained the role of 'spiritual' emotions (also called aesthetic emotions by Immanuel Kant (1790) as being intrinsically related to perception and cognition and particularly associated with a need for knowledge which is driven by a sense of synthesis, beauty and harmony which he has called the Knowledge Instinct geared to explain how and why we are wired to the experience of what I call Spiritual Values and its role in human consciousness and has proposed a mathematical formulation called Dynamic Logic to address the complexities of modelling some fundamental aspects of consciousness, the mind and the brain. (Perlovsky 2007)

the agency of *energeia pneumatikon* or work of The Spirit to lift out a human from narrow concerns to the embrace of the planet and its people more deeply and widely?

3. How is the DNA of the species altered by such an order of consciousness, if at all?
4. What are the neural traces or interfaces of memories and personal history stored in fields, electromagnetic and light waves for a fully realised spiritual being in human form?
5. How are to be distinguished, measured and quantified the effects in the human body of the two categories of Values (Spiritual and Behavioural) and what technology is available to this end?
6. What kinds of brain and heart dynamics take place when damage happens to a marital relationship, where Unity, Integrity and Trust are lost? By marital I mean two beings that have become One in The Spirit (perhaps through quantum entanglement - quanglement) instead of the social construct of what is considered marriage.
7. What kind of fields associated with these values hold the relationship together and how are they to be identified and measured?
8. What kind of brain dynamics and fields are present in prayer and meditation and how do they affect the behaviour of the physical world (matter and energy)?
9. What kind of Behavioural Values are more conducive to a spiritual transformation?
10. What kind of language, signs and symbols foster a spiritual transformation and what kind prevents it?
11. What kind of experiments can scientists conduct to research on brain-heart coherence when exploring the neurology of spiritual and religious experience, as well as Spiritual Identity and Character?

These questions would conform a very ambitious plan for farther research, I will focus on some of them which I consider interesting to elaborate on.

I will propose for point four (4) and five (5) the study of Intentionality, Personality and Coherence with the aid of Quantum Field Theory and Nonlinear Brain Dynamics to

comprehend the kind of large-scale synchronization which register along the different areas of the brain in the presence of a person who is able to be coherent and peaceful for extended periods of time. When describing on one hand his or her personal experiences about spiritual dimensions or in the action of consciously choosing to embody Spiritual Values like Love, Certainty and Humour, a person like that, a Tzadik or Mystic, would enable the possibility for the scientist to find both a physical, psychological and physiological signature to the Presence of Love meaning waves, fields, brain dynamics, hormonal expression, motor movement and behaviour in general.

Regarding point six (6) it would be interesting and appropriate to study heart coherence and its associated brain dynamics with the aid of psychophysiological coherence. This research can be conducted for both couples who are very connected and unified spiritually and aligned to the same vision, goals and plans in contrast with couples who have just experienced a severe breakdown in communication where pain is experienced in the presence of each other. Additionally it could be farther explored (in a similar manner as the one proposed in point four (4) and five (5)) the intentionality of reunification and reconciliation as a quantum event (quantum entanglement) instead of only behavioural change.

#### **4.2.6.- Neural Systems and the Neural Physics of Spirituality and Spiritual Values: The Paradigm of Melchizedek**

The main characteristics associated with The Brain of Melchizedek help to introduce the reader to a kind of brain which is in synchronization with other oscillatory systems and has access to the quantum field through morphic resonance, electromagnetic fields and waves leading to a sense of interconnectedness and wholeness. A brain which can be seen as a holon of the larger system of the body, which can be seen as a holon of different group consciousness and collective consciousness which can also be seen as a holon to the universe in large, a Cosmic Holonomic Brain. A holon is something that has integrity and identity and at the same time is part of a larger system, it is a subsystem. A Tzadik may as well be described by explaining the functioning of his or her heart as the Heart of Melchizedek or go up to the level of the body and describe the Tzadik as a Holonomic Human Being (body and soul included) that can be called the Body of Melchizedek, the Temple of The Living God.

Though some scientists may think that holism can be conceived under a purely materialist paradigm, as I see it that would be a reductionist holism or a holistic reductionism and when missing the Spiritual Domain it limits the holistic view only to the holon of material and energy systems. The third element balancing the reductionist and holistic cognitive operators are Spiritual Values, which through insight enhance both the faculties of analysis and synthesis in the mind reflecting their neural dynamics in both hemispheres and associated brain structures. The state of AUB, on this view, is a preamble to a new life and perception of reality, states that may accommodate revelatory processes regarding the structure of reality and the spiritual nature of human beings, as in the life of Dr. J. J. Hurtak.

Hurtak described his personal revelatory process, which led to the writing of The Book of Knowledge: The Keys of Enoch, a book which is intended to advance science to a new understanding of consciousness and reality.

The template recorder cell sends out thought-forms of information which are continually active in space. Forms of advanced physical intelligence can directly tap into this information if they have a crystalline network within their brain cavity. For this reason the brains of advanced physicals will reveal the right and left hemispheres fused and a small crystal network in the right frontal lobe which acts as a crystal recorder cell or third brain transposing the language of the Higher Evolution into the vernacular. (1977, Key 3-1-1 p. 444)

What kind of experiments can be conducted to validate this phenomenon is another major challenge to our scientific community. Here there is subject for research:

- Can this crystalline network be found within the brain cavity from people who claim to be spiritually evolved and what form does it take?
- Can scientists study the fusion between the right and the left hemispheres and the small crystal network in the right frontal lobe as well as how it functions by transposing the language of the higher evolution and thoughts and feelings into the vernacular?
- How is holographic communication and neural holographic processes involved in the broadcasting of those signals?

Dr. H. Coetzee has described the term crystalline network where he explains that the discovery of biogenic material with ferromagnetic properties (found to be magnetite) enables some animals to detect the earth's magnetic field. At the beginning of the 1990's magnetite-maghemite crystals were found in human brain tissue: extracts of the cerebral cortex, the cerebellum amongst others. He describes the relationship between these crystals and magnetic fields as well as the morphology and properties of the crystal posing a fundamental question for biology.

What is the mechanism through which the weak geomagnetic fields are perceived by organisms that are able to precipitate crystals of a ferromagnetic mineral such as magnetite ( $\text{Fe}_3\text{O}_4$ )? Could these crystals use their motion in a variety of ways to transduce the geomagnetic field into signals that can be processed by the nervous system?...Scientists are now asking the fundamental questions: What is magnetite doing in the human brain? In Magnetite-containing bacteria, the answer is simple: Magnetite crystals turn the bacteria into swimming needles that orient with respect to the earth's magnetic fields. Magnetite has also been found in animals that navigate by compass direction, such as bees, birds, and fish, but scientists do not know why the magnetite is present in humans, only that it is there.....In the human brain, pyramidal cells are present and arranged in layers in the cortex of the two cerebra. The pyramidal cells act as electro-crystal cells immersed in extra-cellular tissue fluids, and seem to operate in the fashion of a liquid crystal oscillator in response to different light commands, or light pulses which, in turn, change the orientation of every molecule and atom within the body. Biogravitational encoded switches present in the brain allow a type of liquid network to release ions that induce currents to the surrounding coiled dendrites. Electron impulses from a neuron, on reaching the dendrite coil of the abutted cell, generate a micro amperage magnetic field, causing the ultra thin crystal, or liquid crystal in the pyramidal cell to be activated --- in a very unusual way. On flexing, this ultra thin crystal becomes a piezoelectric oscillator, producing a circular polarized light pulse that travels throughout the body, or travels as a transverse photonic bundle of energy. (Coetzee, accessed online 2008)

Other authors like Mae-Wan Ho have also explored the presence of crystalline structures in the brain as part of a model for quantum coherence and conscious experience.

I raised the possibility,....I suggest that instantaneous coordination of body functions is mediated, not by the nervous system, but by the body consciousness inhering in the liquid crystalline continuum of the body. Ho and Knight following Oschman, review evidence suggesting that this liquid crystalline continuum is responsible for the direct current (DC) electrodynamical field, permeating the entire body of all animals,...Up to 70% of the proteins in the connective tissues consist of collagens that exhibit constant patterns of alignment, as characteristic of liquid crystals...Proteins in liquid crystals have coherent residual motions, and

will readily transmit weak signals by proton conduction, or as coherent waves. Thus, extremely weak electromagnetic signals or mechanical disturbances will be sufficient to set off a flow of protons that will propagate throughout the body, making it ideal for intercommunication in the manner of a proton-neural network. (Mae-Wan Ho, accessed online 2008)

The definition of a Tzadik hand in hand with the work in neuroscience so far explored opens up the possibility to formulate a future research about the Neural Basis for The Brain of Melchizedek and the Neural Correlates and Brain Dynamics of a Righteous Experience.

This also calls upon the formation of trans-disciplinary teams integrated by Mystics, Prophets, Tzadikim, philosophers and scientists to the study, inquiry and research of Consciousness, Character, Personality, Identity and Self and its associated brain-heart dynamics in connectedness with wider realities.

Though the presence of magnetic field receptors in the cortex has been researched their existence serving navigation skills remains inconclusive.<sup>82</sup> However Walter J. Freeman and Giuseppe Vitiello in their paper, “Nonlinear brain dynamics as macroscopic manifestation of underlying many-body field dynamics,” have proposed an alternative based on many-body field theory in treating brain dynamics which appears to them “as the only existing theoretical tool capable to explain the *dynamic origin* of long-range correlations...” (2006, p.96). They explain that many-body quantum field theory is appropriate to the understanding of ordered pattern formation in condensed matter physics in objects like the brain where the application of classical physics fails to describe this phenomenon. They contend that there are microscopic features in systems like crystals and magnets that need quantum dynamics to explain the ordered patterns which can be observed at room temperature which stand as examples of microscopic quantum systems.

For them this is justified because there are brain states showing co-ordinated oscillations of populations of neurons which are synchronized with changes in the environment and they do so very fast which are crucial to explain the integration of different modules in the cortex. In their study they are aiming to, “understand global cooperation among

modules we have focused on the fields of potential established by dendritic currents of populations of neurons...”(2006, p. 95).

This is a very important effort in the understanding of perception and its association to field theory where consciousness is viewed as emerging from quantum-like processes interfacing brain fields which are supported by dendritic structures for example. This is a good start for a theory of consciousness which incorporates quantum physics in the study of spirituality and perception of reality.

What kind of features and characteristics would present a person with The Brain of Melchizedek? This is a very difficult question to answer *a priori* just because it needs to take into account the verbal report as well as the presence of a person with that kind of brain however, I will introduce some of the main characteristics that I would search for in cooperation with other people as part of a transdisciplinary team.

The Paradigm of Melchizedek proceeds through an understanding of the human potential connectedness and responsiveness at multiple levels to understand spirituality in terms of dynamic function in which values, symbols of spiritual reality, the sayings of seers, and the ability to connect with one another are all combined. That holistic function gives rise to The Brain of Melchizedek and is beginning to be written about and studied scientifically through methodologies which avoid accepting face value the world view of promissory materialism as the all and all.

That research has started to show us that The Brain of Melchizedek is based on the synchronization of many areas of the brain (large scale integration), as well as the synchronization of different body parts, therefore it must be studied as a dynamical system leading to the understanding of the human being in synchrony with others and the universe in large, possibly through morphic resonance, light waves or electromagnetic fields through the quantum level and it is in that synchrony and holism that the systemic properties of The Brain of Melchizedek should be investigated and researched, that is why I am calling the attention of the reader to the Heart of Melchizedek, the Respiratory System of Melchizedek, the Autonomic Nervous System

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<sup>82</sup> See the work of Dunn J. R., et al., “Magnetic material in the human hippocampus.” *Brain Res Bull* 1995; 36:149-53.



of Melchizedek, the Digestive System of Melchizedek, the Body of Melchizedek, the Family of Melchizedek, the Universe of Melchizedek.

In the book “Advances in Consciousness Research, Quantum Brain Dynamics and Consciousness, an Introduction”, Mari Jibu and Kunio Yasue write:

Pauli discovered the **exclusion principle** of quantum theory, which led to an understanding of the **quantum mechanics of many-body systems**...Collaborating with the famous psychiatrist **Carl Gustav Jung**, Pauli also tried to provide a quantum theoretical foundation for two basic concepts of Jungian psychology: the **collective unconscious** and **synchronicity**.(1995, p. 4)

Because this paradigm is a systemic one and because some scientists have recently formulated some systemic theories that are aimed to the explanation of different areas of consciousness and spirituality, when considering the possibilities inherent in those areas of self-understanding a catalogue of possible benefits can be listed that The Brain of Melchizedek could confer on a human being. That is the subject of the concluding chapter.

These theories can be related to J. J. Hurtak’s work amongst others and Sheldrake writing on Morphic Resonance Theory states that memory may be stored outside of the brain and that they can only be recalled when the person is aware. He suggests that awareness, “arises against a background of unawareness, owing to habituation which itself depends on morphic resonance” (1988, pg. 197). Because according to this theory mental fields are organising principles that shape our brain patterns and therefore our behaviours it can be seen how Sheldrake’s ideas are connected with J. J. Hurtak’s revelations about the seeding of divine images that take place through three dimensional networks of expanded neurons acting as super holograms which are derived from a template. This divine template or spiritual template could be seen as associated to the morphic fields which shape our brain and nervous system for the perception of our Spiritual Being, Identity and worlds. This divine template contains The I Am Identity. This idea of morphic resonance is neither fully materialistic nor proposes a dualism of mind and body or spirit and body rather it introduces a link between the two which are an integrated whole, ‘...in the spirit of interactionism, the conscious self can be supposed to interact with these fields, perhaps by containing them...’ For Sheldrake the

idea that memory needs to be explained in terms of physical traces in the brain is an assumption instead of an empirical fact.

These assumptions about memory traces are partly questioned too by the new trend of research which addresses consciousness as related to quantum brain dynamics. Even though this subject is beyond the scope of the present work Jibu and Yasue have proposed that memory could be stored apart from the brain (See also, Sheldrake 1981) based on the stability of memories and the fact that the brain, as an open system loses energy. They propose that memory has to be treated as a physical phenomenon which involves stability:

...as far as physics is concerned, only a restricted number of physical entities are extremely stable. The reason is that any physical process that loses **energy** cannot be maintained...As a matter of fact, a physical process that remains stable without losing energy...emerges first in quantum field theory. Namely, it is the dynamics of a sub-microscopic **field** entity. (1995, p. 140)

This and other ideas related to the biology of the brain led these scientists to the theory of quantum brain dynamics and the quantum theory of consciousness, theories related to the work of Hurlak particularly when he refers to the holographic organisation of the brain and the slow potential microstructures that develop in the post synaptic networks (dendritic networks as Hameroff and Pribram call them) associated with what Hurlak calls neural holograms leading to image constructions and Spiritual Values and insights or 'seeds of light' coming from a divine template. Hameroff refers to those images sometimes as Platonic Values, and Freeman and Vitiello bring a complimentary aspect to Hameroff and Pribram's views explaining perception in the context of quantum field theory.

All of these theories can help the scientific community to derive models and experimental designs to study Spiritual Values and The Brain of Melchizedek.

## Retrospective and Conclusion

The world we have inherited in the beginning of the twenty-first century seems to be for many people a very conflicted one with the majority of the population facing one or more difficulties of the sort of personal stress, disease, social upheavals, poverty, pollution, depletion of natural resources and war. However this thesis comes with a door wide open to personal healing, self-realisation and wholeness, social harmony and peace and the possibility to help the earth find its natural balance again through altruism and actions of kindness characteristic of a loving family environment. This work comes with the promise that the environment and the universe and its diversity of manifested creatures is responsive to Spiritual Values like Love, Truth and Certainty and that the human species is capable of attaining God's Consciousness to attune to the environment and co-create a new place to live in peace and co-existing harmoniously with other life forms.

According to the Paradigm of Melchizedek, human beings are capable of shaping their brain with a higher cognitive map attuned to God's Thoughts and the universe in large. Such a brain it is proposed in time is able to transform the genetic makeup of the human species to manifest the neuro-genetics of peace. Such a brain I have called The Brain of Melchizedek, The Brain of a Tzadik, Son or Daughter of God fully realised in his or her I Am Identity.

In a community of conscious spiritual beings centred in I AM Identities, the phenomenon of sovereignty and self governance is based on the mutual recognition of this state of Unity in personal relationships. In such a community, the reliability of the word of each person requires zero back up with paper work, contracts or a financial token as value for action (for example paper or electronic money). They have all become one organic Being, a spiritual family anchored and embodying their personal I AM Identity, literally they are all One and the same in Spirit and unique in human expression at the same time. They have become a Spiritual Family in Eternity, where Love is the currency of exchange, which mobilises actions of kindness towards other human beings.

Some of the moral implications associated with people of such an order of consciousness and characterised by The Brain of Melchizedek is that it is a Brain 100% loyal to Deity and The Creator's Will as detected through its connectedness to all living things which leads to a relatedness to others based on empathy, wisdom and the knowledge of things, the real needs of other beings and human beings in relationship to him or her. It is a Brain strongly associated with the attribute of altruism better explained as unconditional love, that sees and acts altruistically free from survival fears and territoriality, considering the wellbeing of the whole. It has overcome selfishness, greed and the need to control others.

All of the above has major implications for social change and transformation as well as the direction in which the human species could consciously re-create itself because The Brain of Melchizedek is associated with the ideal of actualizing the human species and its neural and cognitive processes to inherit or to consider the possibility to inherit that kind of brain and to support that choice. Such a human being with such a brain is endowed with a friendly personality and is sympathetic in teaching and wise in formulating counselling because it is associated to an unprejudiced observer and is a brain wired for problem solving and preventive prescriptions.

A Tzadik or a Prophet has a brain that neither conforms to human authority nor is in rebellion to it, it is indifferent to human authority because it is a brain encoded with Spiritual Values which override partial loyalties and partial concepts of morality. It is a brain wired to morality in its purest form and discerns the Perfect action in every situation at that particular moment in time.

A Son or Daughter of God transcends moral intuition and the realization of human duty because those are components of the human mind which are associated with other aspects of human nature like scientific wonderment, where as human beings with The Brain of Melchizedek dwell and see and derive direct knowledge from the Mind of God.

Such a person is always respectful of the freewill of every being in the universe because it is endowed with a self organizing brain which interprets self government and sovereignty as the basis for carrying out what is good in the eyes of God. It is shaped

neurally from the inside out in what pertains to Character, Identity and Values. This kind of brain is wired for self correction because of its loyalty to Deity.

When in touch with a God conscious person, people will interact with a human being who is highly creative in receiving, enacting and gathering the information to solve complex fundamental problems from a spiritual perspective because it transcends the human mind in a similar way that the human mind transcends animal instincts. In this regard the selective response of an animal is limited to the motor level of behaviour the supposed insight of the Higher animals is on a motor level and usually appears only after the experience of motor trial and error while such a brain discerns the value and the worth of goals, ideas and course of action; it discerns the result of the action before the course of action is taken.

All of the above is a guarantee that such a person is associated with an intelligence capable of choosing virtue against his or her own potential survival, he or she knows what he or she is doing while he or she is doing it, where he or she is going and how he or she will get there most of the time and usually a person with The Brain of Melchizedek will be capable of gracefully developing and mastering any form of expression like music, arts, science and the business of life.

When we take into consideration the interconnectedness and systemic properties inherent to all life, then it follows that The Brain of Melchizedek is a holon part of a larger system and as a consequence of that needs to be studied in relationship and inter-association to the larger system bearing in mind that this kind of brain is a brain subservient to a Divine Personality. Usually a person operating within this order of consciousness is concerned with being a faithful witness to the manifestation of what he or she already knows is to come.

By the agency of symbols and signs initially he or she discerns meaningful moments and meaningful events and with this kind of cognitive map is continuously aware of synchronicities and divine order in relationship to the delicate fabric of reality. In this respect a person with The Brain of Melchizedek is a person wired to the pattern recognition of synchronicities and divine order, perhaps through the quantum field being aware that thoughts create and shape physical reality.

While a Son or Daughter of God is engaged in the spiritualization of personal biological beings he or she delights in the appreciation of life and the cosmic reality and lives for that which is Good, Beautiful and True with the awareness that his or her brain, The Brain of Melchizedek is the link between God's Mind and the human mind.

Because The Brain of Melchizedek is a holographic collective brain it enables communication being to being, both with embodied and disembodied personalities. Because of that it is responsive to the inner beings of the Melchizedek order of consciousness being able to adapt to any situation and respond properly through the agency of Spiritual Values. The Brain of Melchizedek is synchronized with morphic fields that are portals to the different domains of existence in the universe, capable of having insight at a macro and microscopic level.

Such a cosmic brain map is grounded in thought patterns and brain activity capable of eradicating discomforts in the body by the agency of the mind and Spiritual Values and it is a brain compatible to thoughts without limitations where everything and anything is possible. For this kind of brain peace is accessible at all times, in any situation. This has been described as a peace that surpasses all human understanding, a brain that is at peace, even in the face of life threatening events, ever trusting in God's protection, a brain which is in perfect entrainment and synchrony with heart, respiratory, digestive and nervous systems.

So my Dear Reader it would be nice at this point if we can concur and agree that The Brain of Melchizedek needs to be studied with care because of the immense benefit it makes possible to the human species. Such is the power and potential of the paradigm presented so far, The Paradigm of Melchizedek!!!

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# Appendix A

## Spirituality and Morality (Sovereignty and Governance)

This appendix addresses briefly the difference between True Religion or Spirituality and Religious Belief or Religious Practice. One of the major implications of this difference is related to the sovereignty of a person and his or her sense of governance (God's Government and Self-government) in distinction to religiously derived social codes of conduct, human law and order.

Though religious written accounts and stories are a valuable source of inspiration and remembrance of God's interaction with human beings, there is no written substitute for revelation and direct online communication with The Creator.

True religion starts with personal revelation and communication with The Source of all life. It is by this transformative experience that the mind, soul, brain, heart and human body in large are changed to the attainment of pure thoughts and essences, meanings and values with its associated brain patterns, feelings and emotions.

In the context of this chapter, I will refer to True Religion as Spiritual Life or simply put Spirituality. The Brain of Melchizedek is a brain wired for spirituality in direct line with The Creator. It is a brain associated with a consciousness that transcends human logic and reason as well as beautiful mystical and emotional feelings of Love. Spirituality and God's Consciousness is a different territory than the territories of morality or ethics. Spirituality has been the inspiration for many moral and ethical codes of conduct however Spirituality is a living experience free from human limitations.

Religious beliefs are based on the stories of different people and families as well as certain "religious practises", rituals and traditions. Though in many situations they foster an environment of moral conduct and respect that ideally facilitates a spiritual life, they are limited by the learned behaviour of their community of believers.

Spirituality leads to a refined understanding of reality and relationships. In such a state, the appreciation for every person supersedes any partial loyalties for any particular group or religious belief. A Tzadik, a son or daughter of God is an ambassador for the highest good to all people equally. He has no religious practise apart from doing God's Will.

A statement like "You shall not kill" is inapplicable to God himself and any of his Unified Sons and Daughters just because a loving being lacks any kind of violence in his or her constitution. That kind of statement only applies to those living beings who still entertain or are affected by anger or violence that may lead them to an act of killing. God is Love, Light and Truth and so are His ambassadors.

The leading Voice of The Spirit precedes any moral code always. It is The Law itself, meaning God's Being in action and therefore the governing body of The Tzadik.

Spirituality is an experience of the reality of Universal Values and Meanings, which illuminate the mind of the human for a better and eventually perfect life, both on earth and in eternity. It is directly related to insight instead of fact or feelings. Spirituality is untainted by (even though it may have drawn on) beliefs, traditions or human authority and for most of daily life free from intense mystical states and feelings. It is concerned with the discernment of "God's Voice" and Mind and the fulfilment of the will of The Creator on a daily, moment to moment or situation to situation basis.<sup>83</sup>

Even though Varela and Maturana omit The Creator in their writings they specifically state the biological and social importance of Love in the existence of a human being and his or her community.

What biology shows us is that the uniqueness of being human lies exclusively in a social structural coupling that occurs through languaging, generating (a) the regularities proper to the human social dynamics, for example, individual identity and self-consciousness, and (b) the recursive social human dynamics that entails a reflection enabling us to see that as human beings we have only the world which we create with others—whether we like them or not.

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<sup>83</sup> Human morality is subordinate to God's Law to engender the highest good. Ideally every human being is destined to become a Tzadik. This results in a planet in God's Order without human boundaries of religious beliefs and nation states separating and governing the affairs of people.

Biology also shows us that we can expand our cognitive domain. This arises through a novel experience brought forth through reasoning, through the encounter with a stranger, or, more directly, through the expression of a biological interpersonal congruence that lets us *see* the other person and open up for him room for existence beside us. This act is called *love*, or, if we prefer a milder expression, the acceptance of the other person beside us in our daily living. This is the biological foundation of social phenomena: without love, without acceptance of others living beside us, there is no social process and, therefore, no humanness. (1987, p. 246)<sup>84</sup>

Cosmology and the universe are understood better and enriched through spiritual sight and hearing, spiritual insight. Though philosophy contributes to a logical understanding of reality, spirituality is metalogical, meaning logical from the absolute perspective of The Creator instead of the relative perspective of the human. It is a logic which is above or encompasses all the relativistic systems of human logic. It enhances the philosopher's mind and reasoning.

A spiritual life, spirituality makes the person a knower of God instead of a believer in God. The mind of the knower is different than the mind of a believer in that it is changed in its brain patterns, configurations and cognitive maps.

Spirituality can be reported as fact in human life and experience. This is an avenue for spirituality to be scientifically and psychologically approached. Through revelation and insight, the many different natural sciences, organised religious beliefs, moral codes of conduct may be synthesised in a sound and logical philosophy of the universe. All these lead to a synergistic and unified explanation of life in the co-ordination of both science and spirituality. This is clearly observed in altruistic actions of kindness when enacted by people of different races, different nationalities, religious beliefs and genders, and the nature and motivation of those actions is common to all of them which is usually doing good for the sake of good itself without expectations or conditions and thereby leading to a family economy and ecology of sharing or belonging together.

Such a synthesis also leads to an enlarged and refined sense of morality and ethics based on Unconditional Love where for example a science grounded on the light of Spiritual Values, will abstain to apply intelligence in any destructive way (like the building of

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<sup>84</sup> Maturana, Humberto R. and Francisco J. Varela; 1987 The Tree of Knowledge – The Biological Roots of Human Understanding Revised Edition. (Boston,

weapons). This is because he or she is a loving being rather than just a human being restricted by imposed commandments on him or her, based on fear of punishment as in “Thou shalt not kill!”

This synthesis also unifies different human beings to a common origin amongst the different beliefs, because it is found on the commonality of a Spiritual Experience and life amongst all people. God is One and the knower of God Loves every one, sympathises and empathises with every creature alike.

On another note, the notions of richness, well being, disease, healing, and medicine to name a few may also change for a spiritual person. Remote as it may seem for many human beings the knower of God is in a position to live a life free from disease without a bank account and a paid job, free from survival fears.

Most of the time unless prescribed by The Creator or the accidents of natural living a person that becomes the embodiment of Spiritual Values gets access to maintain continuously a healthy body and well being. In a sense scientific hopes of removing disease and other limitations of human existence lie in the domain of Spiritual Revelation and a Scientific Spiritual Synthesis, as these hopes are actualised and become the reality for the majority of human beings, humanity is left with new cognitive abilities and a different cognitive map. This human being is free from the thoughts and fears of disease, competition for survival amongst others and hence free from the stresses imposed by negative emotions which are the direct consequences of the former thoughts. This is a human being who can think and act for the Greatest Good and be at ease with other people’s needs in mind.

In this sense, instead of focusing only on researching drugs or genetics to counteract disease the scientific community through scientific research may as well support individuals to understand their genetic propensity to a spiritual life, which would free them from any form of disease, as well as the diets which are more adequate to the biological needs of different human beings. Although outside of the scope of this work a thorough inquiry on psychoneuro-immunology may shed more light on this matter.

On the matter of health consider what Persinger has to say:

Anxiety, particularly protracted anticipation, erodes the physiology of the person, chronic anxiety produces covert changes within the body that are later manifested in ulcers, headaches and gastrointestinal problems...Conditioned suppression influences more than visible behaviours: Transmitters within the portions of the heart that make it beat are depleted; heart attacks have become epidemic...The healthy human form is distorted by the accumulative effects of anxiety...But the most tragic effect of anxiety is on the immune capacity to react to the natural peculiarities of cell division, what we commonly call cancer. (1987, p. 151)<sup>85</sup>

How would a person like a Tzadik exist and interact in integrity with other human beings in the twenty first (21<sup>st</sup>) century?<sup>86</sup> How would humanity through science and governments accommodate or sponsor human beings to live in the world sovereign unto God, fully realised in their I AM Identity? So far only people with a peace which surpasses all human understanding and an absolute faith and certainty that God will provide have been able to be such a reference point sometimes at an extremely high price (such as crucifixion). Where are the volunteers for such an undertaking and how can they be found and called to this kind of life and service? Who are the children and adults who have the propensity for such a life plan and how will humanity support them, nurture them and protect them? This is a major moral issue when the need for a spiritually aware human being is taken seriously.

Usually people pay taxes to support government officers on duty. Only a society who values spirituality can see a Tzadik like this kind of person, a person on duty, perhaps, the most important of all duties. Some people have been given this acknowledgement in human history and their names can be found amongst the ancient people of Israel, India

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<sup>85</sup> Persinger, Michael A., 1987 Neuropsychological Bases of God Beliefs. (New York, USA: Praeger Publishers).

<sup>86</sup> A person free from survival fears may dedicate his or her life to support other people to realise their spiritual potential. A Tzadik can exist without concern for a paid job and would abstain from charging anything to anybody for his service to others. A Tzadik can go for long periods of time with little amounts of food and water and feel alive and energized by The Spirit in him or her. He or she regards him or herself as a Family member to every other human being. His or her only reason for living is to fulfil the will of The Creator for the betterment of the human species.

and Tibet amongst others. Consider the particular case of Melchizedek to whom Abraham gave a tenth of his wealth as portrayed in The Torah.

When education is in the hands of spiritual human beings, family environments where learning takes place to promote the acquisition of skills, character development and ultimately a moral foundation to prepare him or her for his or her spiritual life and ultimate Unity with The Creator, a soil exists for the emergence of Tzadikims and the flourishing of Sons and Daughters of God, God conscious people. Education is aimed to foster:

- The Spirit of universe exploration through Science which deals with facts.
- The Spirit of internal revelation and spirituality which deals with Spiritual Values.
- The Spirit of Wisdom through Philosophy which deals with the unification and meaningful understanding of facts and Spiritual Values, an enlightened mind which can grasp concepts and the depth of reality.<sup>87</sup>

This may create the moral and intellectual arena for spirituality. Intelligence without morality can be harmful and sometimes destructive. Morality by the agency of moral or Behavioural Values is concerned with the discernment between constructive from destructive, beneficial from harmful, right from wrong and good from evil. Spirituality enhances morality by the agency of Spiritual Values. It is the attainment of Unity with God's Consciousness and the knowledge of the perfect action that encompasses the most constructive, the most beneficial, the highest good. Morality makes a person good, spirituality makes a person holy (As in the words in Matthew spoken by Yeshua, "Be perfect, therefore, as your heavenly Father is perfect." (Matatyahu, מתתיהו 5:48).<sup>88</sup>

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<sup>87</sup> It is a moral responsibility to let the kids and youngsters know of the possibility of living a life as a Tzadik and to support them when they grow and freely choose to fulfil a spiritual life. They need to know that spiritual service is an honourable human endeavour which supports artists, engineers or doctors to be better people and is equivalent to the life of a fulltime mother, father or grandparent who cares for the wellbeing of his children (in this case the larger community).

<sup>88</sup> Holy Bible-New International Version, (1973, p. 1209). (London: Hodder & Stoughton).

All of the above is very important for the area of ethics and medicine for example. Sometimes it may seem morally appropriate to administer a drug to save the life of a person, when that drug can be associated with harmful side effects, that being a so called “good or beneficial” compromise. However, when that person’s faith and spiritual stamina propels him or her to find spiritual healing direct from God or through the agency of a Son or a Daughter of The Living Light, this kind of treatment would be of the highest good without any physical or psychological side effects.

The fundamental solution is always preferred over the quick fixes with side effects which are detrimental to the fundamental solution. This is especially likely to be the case in psychiatry.

From what I have mentioned before it follows the need of a certain priority on spiritual healing with the prerogative of the patient who by his or her own sense of sovereignty determines the best avenue for him or her. A morally sound doctor will always co-operate in this direction with the patient. However, when the self-esteem and the spiritual stamina or faith of the patient is very low, also by the Grace of God he or she may seek and recognise the best possible treatment with the less harmful consequences for the patient. In any case, when people can only rely on moral values this would be better than any morality at all. It is important to note that morality without spirituality even with the best intentions sometimes may be harmful.

The understanding of the power of spirituality promotes a synergy which can foster the formation of healing teams integrated by Patient, Doctors and Tzadikims to find the best course of action. An ideal situation arises when the whole doctor-patient, client-provider perception of reality has been transformed by the perception of a family healing team. A sense of belonging and the feeling of home are always good.

From the above the implications can be derived of a new type of research that is to be conducted on healing and wellbeing in a new set of circumstances. Scientists, doctors and Tzadikims may co-operate on research projects to address new avenues for people to realise how important it is to open the doors to spirituality, by improving the understanding of their physical body, mental and emotional states, with for example the aid of biofeedback systems. Also, Tzadikim, scientists and geneticists may explore and

find which kind of environments and relationships may contribute to the genetic expression of propensity to spirituality and the inhibition of the expression of genes related to destructive behaviour and destructive intelligence.

All of these discoveries may then be associated and credited to The Grace of The Creator as well as the diligent and valiant participation of humanity as God's agents, a desired partnership! A spiritual scientist or even a moral one with the co-operation of Tzadikims will always approach this work as a sacred duty instead of an immoral one who arrogantly thinks he or she is playing God.

Another important moral issue here is pregnancy. It will suffice to say that the baby while in the womb is affected by the physical, mental and emotional states of the mother. If she is a Tzadika, her unity with The Giver of All Life will bless the child and make him or her physically prepared for a healthy spiritual life. However if the mother is stressed, angry or under the effects of drugs and alcohol, the baby may be imprinted with a condition that will make it more difficult for him or her to find the proper physical and emotional conditions for the development of his or her spiritual potential. This condition may be overcome in life later on by the Grace of God directly or through other people.

Ideally people should bring children into this world only when ordained by The Creator, which means that it is morally appropriate to seek Unity with God, and spiritual balance before embarking on parenthood.<sup>89</sup>

This means that spirituality has supremacy over morality and that to be spiritually in order (SO) has supremacy over political correctness (PC).<sup>90</sup> The more spiritual a

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<sup>89</sup> A practical approach to this is to experience peace in our communities for prolonged periods of time before bringing them here. Imagine how many abortions and destructive tendencies would be prevented around this issue if more people would be touched by the agency of Tzadikims. This is the business of prevention instead of correction.

<sup>90</sup> People with diligent work and effort have thought to support a police force, which is a corrective force for moral misconduct or violence. However, with the agency of more Tzadikims and the multiplication effect of spirituality and goodness the community would need less and less corrective measures. This means that gradually by supporting the agency of more Tzadikim, the community finds a fundamental solution to social misconduct and violence instead of the quick fix with its side effects of anger, fear and resentment.



community or nation becomes the less need for moral codes of conduct enforced by statutory laws. Spiritual people are Self-Governed by the ministry of God's Universal Values, which can be regarded legitimately as ministries like for example, The Ministry of Love, The Ministry of Light or The Ministry of Truth. That's why it is so important and crucial to comprehend and inherit The Brain of Melchizedek. The Brain of the King and the Queen of Righteousness and Peace, in modern terms this means the inheritance of the brain of a sovereign, self-governed human being under God's Law.

So my Dear Reader the synthesis is about, "To Be or To Be Limited, that is the answer" and the choice!

In the case that the reader may perceive a sense of preaching or moralising in this message, which is neither of them rather it is a very real and biological view with scientific implications, consider carefully what Maturana and Varela write:

Anything that undermines the acceptance of others, from competency to the possession of truth and on to ideologic certainty, undermines the social process because it undermines the biologic process that generates it. Let us not deceive ourselves: we are not moralizing, we are not preaching love. We are only revealing the fact that, biologically, without love, without acceptance of others, there is no social phenomenon. If we still live together that way, we are living indifference and negation under a pretence of love. To dismiss love as the biologic basis of social life, as also the ethical implications of love, would be to turn our back on a history as living beings that is more than 3.5 billion years old. We may resist the notion of love in a scientific reflection because we fear for the objectivity of our rational approach. Yet from what we have said in this book it should be apparent that such fear is unfounded. Love is a biological dynamic with deep roots. It is an emotion that defines in the organism a dynamic structural pattern, a stepping stone to interactions that may lead to the operational coherences of social life. (1987, pp. 246-247)

The only limitation that humans are faced with is in their capacity to accept that God's Love can be expressed continuously in human form by any human being; this requires the relinquishing of limiting beliefs and the commitment to this possibility. Consider some of the implications of this paradigm shift at a planetary scale where instead of conceptualising globalisation as an economic set of transactions it is seen as the spiritualization of human kind, the emergence of a Global Order of Tzadikim, a planetary community founded and grounded in Love, Light and Truth.

A community of Tzadikim is a community living under the Law of God, their individual identities are in I AM therefore their national or religious identity is regarded as their biological origin, however their destiny is in Unity (Spiritual Identity) with everyone else. This means that he or she sympathises and empathises with all people alike. He or she is an ambassador of the Global Unity and as any other ambassador of any national or religious government represents the people, in their case the people who are concerned with the well being of all humanity as One Family in the eyes of The Creator.

In the transition from nations to a Global Order national states that pledge allegiance to the ideal attainment of a holy existence will always interact with the ambassadors of God's Spiritual Government to facilitate this transformation gracefully.

As more and more people become spiritually realised in different nations, then those people, gradually and naturally will share in Unity with one another and eventually national boundaries will cease to exist. In the fullness of the expression of this vision and ideal, the whole world is in Unity under the Ultimate Giver of Law, as One People. This is very different than a political world government or an institutionalised theocracy. This is a Universal Family Government under God's Love.

This is fulfilled in a new covenant spoken by the Prophet Yirmeyahu (Jeremiah, **ירמיה**) when it is considered that humanity in large can be traced genetically to both the known (The Kingdom of Judah) and the Lost Tribes of Israel (the House of Israel):<sup>91</sup>

See, days are coming, spoke YHVH (**יהוה**), that I will call the House of Israel (**ישראל**) and The House of Yehudah (**יהודה**) to a new covenant: Not like the covenant that I called their forefathers in the day that I took them by the hand to bring them out of the land of Egypt: a covenant that they broke, when I was a husband unto them, spoke YHVH (**יהוה**): However this is the covenant I Am making with the House of Israel; After these days spoke YHVH (**יהוה**), I gave them my Torah and wrote them inwardly, in their hearts; and I was to them the Elohim (**אלהימ**), and they became my people. And any man didn't teach his neighbour, and any man his brother, saying, Know YHVH (**יהוה**): because everybody knew me, from the small ones (children) to the big ones (adults), spoke YHVH (**יהוה**): because I

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<sup>91</sup> See Olson, Steve. 2002 Mapping Human History - Discovering Our Past Through Our Genes. (USA: Houghton Mifflin Company).

forgave their wickedness, and I forgot their sins. (Yirmeyahu, **ירמיה** 31:31-34)<sup>92</sup>

The major paradigm shift here is in the perception of what Love is. Love is a Spiritual Value, a Quality, an Attribute of The Creator that when embodied in the human expresses with its neural correlates and dynamics associated with memory, cognition, affection, emotion and learning. This is a paradigm shift from human morality based solely on fear, guilt, shame and correction all associated with survival to a Spiritual Scientific one which encompasses the highest form of morality, the Embodiment of Love as portrayed in the words, the synthesis of the Law is in Loving thy neighbour, thy brother and sister as thyself as The Creator Has, Is and Will keep on Loving us.

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<sup>92</sup> **יהוה** (Yahweh) usually mistranslated Lord and sometimes referred to as The Name. Elohim (**אלהים**) usually mistranslated God, which refers to the multiple expressions and embodiments of The Creator in all levels of existence from the Spiritual angelic as well as the human physical biological dimensions. Translation and commentaries by Jeffery Jonathan (Joshua) Davis.

# Appendix B

## Implications for Cognitive Neuroscience

In dealing with the complexities of relating the Spiritual to the Physical Domains, the necessity of introducing New Paradigms that may give a framework for scientific research needs to be faced. This will allow at least the attempt to validate the effects that are measurable and it's correlation with the "invisible" currents of spiritual energy.

Some of the scientific hypotheses and theories that are evolving to fulfil this purpose are: Conceptual Blending or Integration, Systemic Memory Hypothesis, Holonomic Brain Theory, Coherence (Positive Emotions and Heart Rate Variability and patterns of Coherent states in Cardiac Electromagnetic Energy), Morphic Resonance Theory, amongst others.

These theories connect with research studies in cognitive neuroscience and cognitive science in relation to emotional systems of memory, attention and mental spaces and their neural repercussions. Cori Young (2004)<sup>93</sup> writes of a growing body of evidence showing that, how a baby is cared for by the mother can determine the emotional development as well as the biological development of the child's brain and central nervous system. Allan Schore also provides some evidence on this area<sup>94</sup> in discussing the psychobiology and the neurobiology of attachment experience, social referencing experiences (visual attachment) an interpersonal map for the development of an evaluative system in the child operating in conjunction with a system in the frontal lobes that modulates the emotional valence of experience and the importance of the orbito-frontal systems and the paralimbic cortices involved in an evaluative capacity and

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<sup>93</sup> Young, C., 2004 [Is Science Catching Up To Mothers Wisdom?](http://www.mothering.com/articles/new-baby/bonding/mother-love.html) The Science of Mother Love Magazine accessed on 1 September, 2008, [www.mothering.com/articles/new-baby/bonding/mother-love.html](http://www.mothering.com/articles/new-baby/bonding/mother-love.html).

<sup>94</sup> Schore, Allan N., 1998 "The Experience - Dependent Maturation of an Evaluative System in the Cortex," (Paper 13, pp. 337-358). In, [Brain and Values: Is a Biological Science of Values Possible?](#) K. Pribram - Editor (Mahwah, New Jersey: Lawrence Erlbaum Associates Publishers, 1998).

intimately related to cognitive emotional interactions. Joseph Chilton Pearce (1992)<sup>95</sup> also illustrates the importance of the heart-brain synchronized relationship for the mother and the child.

Perhaps, the first step is to comprehend and clarify these New Paradigms to the scientific community and to shed some light in the understanding and clear distinctions between Values, Meanings, Qualities, States of Being, and their Emotional expression and Neurochemistry in the Brain and Hormonal Systems.<sup>96</sup>

This chapter is bringing together some of the different theories, hypotheses and lines of research to explore the dimension of scientifically studying the Spiritual Value of Love and some of its cognitive neuroscience implications.

### **B.1- Cognitive Function (Cognitive Blending and Metaphor)**

One of the things that still puzzle some scientists and philosophers is the singularity of how language appeared in the history and evolution of humanity. To account for this singularity has been a major challenge as Turner and Fauconnier point out.<sup>97</sup> They propose that language appeared suddenly instead of gradually an interesting view when linked to Varela and Maturana's claim that, "language arose as a result of loving cooperation" between early hominids living in small groups and families moving constantly on the land. (1987)

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<sup>95</sup> Pearce, Joseph Chilton; 2002 The Biology of Transcendence - A Blueprint of the Human Spirit. (Rochester, Vermont, USA: Park Street Press)

<sup>96</sup> Thomas Lewis approaches this subject in his book: Lewis, T. et al., 2000 *A General Theory of Love*. (New York: Random House). Also see the following authors who have made a step towards this line of research. Bartels, A. and S. Zeki; 2000 "The Neural Basis of Romantic Love." *Neuroreport*, 11, 3829-3834. Kurup, R and P. 2003 "Hypothalamic Digoxin, and Neurobiology of Love and Affection" *International Journal of Neuroscience*, 113, 2003, 721-729, and Pitkow, L., et al., 2001 "Facilitation of affiliation and pair-bond formation by vasopressin receptor gene transfer into the ventral forebrain of a monogamous vole." *The Journal of Neuroscience* 21, 2001, 7392-7396.

These remarks suggest that the singularity of language can be related to values like Love and the synergistic properties of Cognitive Blending and Cognitive Integrations that may arise showing strong non linear behaviour sometimes in the form of singularities or sudden jumps as it happens in sudden moments of insight, the so called ‘eureka’ or ‘aha’ moments.

Perhaps an answer to this puzzle is that some human beings were biologically equipped to communicate with Spiritual Beings in a telepathic way (perhaps in parallel universes and more wildly with wiser copies of themselves which took more loving paths than the ones that these humans are experiencing in this local universe as portrayed by Vilenkin (2006).<sup>98</sup> As a consequence of this communication, through a Language of Light (a quantum language), a cognitive map was created to represent both the physical and the spiritual world with the aid of a symbolic structure, mapping letters and sounds to produce a human language.

What is relevant here is that language seems to establish a link between the Physical and the Spiritual Domains of reality with its cognitive and neural representation in place to facilitate the construction of meaning and the articulation of thought in association with Spiritual Values. This suggests the need to express affection in a verbal way when Love is experienced in the presence of a spiritual being or another human being, a kind of feedback which happens between human beings and shapes their neural structures based

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<sup>97</sup> “What could have caused this singularity to come into existence?” (2002, p. 172). Fauconnier, G. and M, Turner. 2002 The Way We Think - Conceptual Blending and the Mind’s Hidden Complexities. (USA: Basic Books).

<sup>98</sup> Vilenkin, A., 2006 Many Worlds in One - The Search for Other Universes (USA: Hill and Wang). Professor of physics and author, Vilenkin has bravely proposed a theory of inflation and its infinite islands which support the existence of local universes each of them with its own big bang, parallel universes with parallel realities for each person existing in the grand universe. From his theory he derives the scenario that there should be many places in the universe with the replica of the identical history of every human being in different earths of different universes. It reminds me of the words that declare, “I Am building a new earth and a new heaven” and “My House is a House of Many Mansions” that appear in the Torah of Yeshua Ben Yosef and the Prophets of Israel.

on language reaffirming and confirming their mutual loving behaviour and therefore the way they treat one another.

Language provides a human with a structure to induce delayed responses to the environment. It means, that a human by the agency of language may think before he or she acts. Through language a person may be given an avenue to change from anger and confusion to Love and understanding, from instinctive animal response to carefully thought actions.

Words of wisdom are like food for the soul; however words can also be a poison to the soul like rotten food for the body.

A metaphor like the above can be consciously used as a vehicle to restore certain Values or States of Being in a human being and may be particularly useful to map the Spiritual Domain, which is “invisible” to the Physical Domain.

In Philosophy In The Flesh, Lakoff and Johnson write:

God requires metaphor not only to be imagined but to be approached, exhorted, confronted, struggled with, and loved. Through metaphor, the vividness, intensity, and meaningfulness of ordinary experience becomes the basis of a passionate spirituality...., The vehicle by which we are moved in passionate spirituality is metaphor. (1999, p. 567)<sup>99</sup>

A metaphor is more than just the words written or said as a “metaphor”. It requires that the person who creates the link between the Spiritual (target) and the Physical (source) domains embody the experiences that he or she verbalizes as a metaphor.

For example my Dear Reader, to walk in God’s Will is like going with the flow of the river, the metaphor can be understood as a mapping (in the mathematical sense) from a source domain (in this case, going with the flow of the river) to a target domain (in this case, walking in God’s Will). There is a clear and precise mapping between the elements in the domain of walking in God’s Will (e.g. signs that something is moving in the right direction, a current of events and a higher force which a person surrenders to and moves

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<sup>99</sup> Lakoff, G. and Mark Johnson. 1999 Philosophy in the flesh: the embodied mind and its challenge to Western thought. (New York : Basic Books).

him or her effortlessly to his or her destination. All the elements of this domain have their counterpart in the source domain (in this case, going with the flow). Clearly the elements of this domain are similar, e.g. the current of the river, the leaves or signs which tells the person that there is a current and his or her body is being carried by a greater flow which takes him or her to his or her destination.

There is a significant difference which is felt when the metaphor is spelt by somebody who has walked with God in contrast with somebody who just repeats the metaphor that he heard or read somewhere without having experienced walking in God's Will.

When a human being repeats like a parrot a metaphor that he or she reads or hears without having experienced the mapping and acquiring for him or herself the experience of the target domain, then the metaphor is just a bunch of words. It is like a person saying, "You Have To Walk Your Talk", without having the comprehension of those words as a living experience and embodying the experience when the words are said. So, my Dear Reader to "Walk Your Talk" means that your actions may reveal to others who and what you say you are in your soul, according to the capacity or willingness of others to receive who and what you are.

Seana Coulson writes:<sup>100</sup>

Metaphor has historically been portrayed as colorful language - aesthetically pleasing but without cognitive import...However, in recent years, cognitive semanticists...have argued that metaphor is, in fact, a pervasive phenomenon in everyday language and, moreover, that it represents the output of a cognitive process by which we understand one domain in terms of another. Cognitive linguists define metaphor as reference to one domain (known as *target*, theme, or base domain) with vocabulary more commonly associated with another domain (known as the *source*, phoros, and vehicle). On this construal, metaphoric language is the manifestation of conceptual structure organized by a *cross-domain mapping*... (2001, p. 162)

It seems to me that this is why a book like The Zohar (a Kabbalistic Mystical Revelation)<sup>101</sup>, rich in metaphors, mapping the Spiritual with the Physical Domain and

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<sup>100</sup> Coulson, S., 2001 Semantic Leaps - Frame-Shifting and Conceptual Blending in Meaning Construction. (USA: Cambridge University Press).



vice versa, is reported as so difficult to comprehend by Jewish Scholars or “Rabbis”. Those metaphors are easily grasped when they are verbalized and shared by a human being who embodies the experience; this is known as Oral Law.

Lakoff and Johnson write:

But empathic connection to the world is only one dimension of spirituality that the body makes possible. It is the body that makes spiritual experience passionate.....Without all these things, spirituality is bland. (1999, p. 567)

To empathize with a human being who embodies Love and expresses the words “I Am The Love” can be a profound life changing experience which more likely will leave memory traces associated with that statement (I Am The Love). Those traces may create orbito-frontal and temporal resonances with the feeling tone of the face as represented in the right temporal lobe and link those to the semantic complexes of the words used and the associated memory traces as they are realized in the left temporal lobe so activating both sides of the brain in a relatively holistic way through key association areas. These involve the processing of emotion, affection and Spiritual Values with their neural counterparts in the limbic system and prefrontal cortex. The processing of these different features immediately raises the issue of the binding problem which generally speaking in this situation is connected to the object of Love, the agent of Love and the Value of Love. The binding problem is one of the most difficult problems to solve associated with consciousness and authors like Jibu, Hagan, Hameroff, Pribram and Yasue<sup>102</sup> coincide with Crick, Koch and Singer in that non-local quantum coherence is involved:

Language and metaphor can be employed by a human being that is embodying a Spiritual Experience, to facilitate and enable this experience to be consciously embodied by other human beings, with long-term memory effect. It is also clear to me that Spiritual Experience and a conscious relationship with God and the Cosmos can be

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<sup>101</sup> Yochai, Rav Shimon bar; 2003 The Zohar. (USA: The Kabbalah Centre International Inc.).

<sup>102</sup> Jibu, Mari; Scott Hagan, Stuart Hameroff, Karl Pribram and Kunio Yasue; 1994 “Quantum optical coherence in cytoskeletal microtubules: implications for brain function.” Ireland: Elsevier Science, BioSystems 32 (1994) 195-209.

derived directly from God, who is accessible to any human being without the mediation of language, metaphor or another human being.

Language makes a human being distinct from an animal, just because potentially, through its conscious use, a human being may be actualised from the automatic and reactive response of an animal, to a conscious creature with creative capacities.

This also means to me, that verbal communication is enhanced in the presence of Love. Embodied Values are required while speaking metaphorically of these values for them to be felt and comprehended.

Metaphor is more than just words with literal meaning, it is like poetry, it carries life which can produce bodily changes, and its effect can trigger new feelings or insights, or restore a value like humour. This is important because poetry and humour thrive on free and chance associations outside the linear prescribed patterns of reasoning and logical argument, which is more a kin to the communication of Universal Values, a subjective experience usually associated with insight and creativity.

For example, imagine a person from the western world that joins a Zen monastery in Tibet, his friends in America say metaphorically and with concern about him, “he’s gone mad”. Twenty years later, he returns as a Zen monk to his home village in America, to what his friends metaphorically comment, “He has come back to his senses”. For the American Zen monk it took twenty years to transcend his senses and reach and embody Buddha state that he could share of among his old friends. With a smile on his face he replies to the question, “How do you feel in your old town?” (With an integration of the two metaphors used by his friends about him), “I’ve gone mad because I have come back to my senses”.

By this he means that what is considered appropriate and “sane” behaviour by his friends is actually senseless and “insane” for a monk who has broken free from all behaviours after twenty years of diligent meditation and spiritual practices. However, because it is happening in a completely different light it turns out to be a humorous situation with the associated resolution of a perceived conflict and clash of values and perceptions.

Language is more than just an aid for transmission and interpretation of information; meaning is linked to States of Being in the use of language, in a similar way that a kiss is more than an exchange of saliva between the lips of two human beings.

As I mentioned in Chapter Three (3) Buddhist monks seek to quiet their minds to attain certain states of consciousness. Silence is different than being quiet. Some people can be quiet and can be very noisy internally (highly mentally active). Some other people may be speaking and yet be very silent internally (a quiet mind).

Sound, toning and chanting can be used very effectively to quiet the mind and experience a “blank mental space”. This means breaking free from the boundaries of word meaning in relationship to the world of the human senses. It would be like the use of phonemes and morphemes without their old meaning in the face of new meaning related to Spiritual Realities and States of Being.

The experience of having a quiet mind with a heart full of Love is a fountain of well being for my existence and for whoever unifies with Love. This is my first responsibility and my highest contribution to The Family of Humanity, hand in hand with sharing metaphorically or directly with other human beings how to access those states of being with long-term memory.

In The Zohar it is also mentioned in detail, the power of visualizing and meditating upon each letter of the Aramaic or Hebrew alphabet. It is explained how these letters are “Living Beings”, “Energies”, or “Qualities” that nurture the soul and may be seeded in human consciousness at night time during sleep. For me this is also a real experience since early childhood (much before I knew about The Zohar). In dreams that I still remember vividly and have been with me like powerful visions, each of these letters were coming from the stars, they were like lightening, and each time I saw them coming towards me at the speed of Light, and slowing down forming words, and then accelerating again and penetrating my eyes like a flash, it gave me the experience of a profound Love, Certainty, Grace among other qualities and values that I came to embody at will.

The experience of a nervous system going through its sleeping activity to re-organize and reconnect the experiences of the day and the structures of meaning grasped by the individual resonates both with current neuroscience and with the work of Hurtak.<sup>103</sup>

Hurtak introduces the reader to a nonlinear cosmic language in a representation of this language in pictographs, pictures, or letters. Through the use of this language and by linking these images and pictures to Spiritual Values, human consciousness is actualized to be able to communicate with different domains of reality, and supports the human in respatializing the human cognitive map by activating the neurochemistry that gives access to the perceptions of these worlds and the still small “Voice of God” leading us in the right direction on day to day experiences.<sup>104</sup>

Hurtak also speaks about inner vehicles in the sense that those vehicles are able to take human beings from one consciousness zone to another consciousness zone, as in the Torah it is written that Eli’Yahu, (אליהו) bypassed biological death and was taken to heaven in Chariots of Fire (Merkabah, Hebrew for vehicle, a media of translation from this world into another world of existence). Basically the Language of the Living Light is the language which transmits the attributes of The Creator through different electromagnetic spectrums, waves, and fields.

Hurtak uses the term Higher Evolution and by this he means a spiritual evolution (different than the Darwinistic-Lamarckian use of the term) and associated with the attainment of consciousness, powers, and dominions to overcome physical limitation and mental states that inhibit the full expression of the Love of The Creator. He also speaks about the power to overcome the archetypal patterns of the subconsciousness which can be related to Carl Jung’s archetypes, giving people a means to discern through the Language of Light and the Values of The Creator, a person’s true Identity and the myths of the collective unconscious activity without losing integrity and identity as a human.

Language plays a fundamental role in many different domains of human existence. In early childhood it provides a framework to categorize the physical environment, body

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<sup>103</sup> The Book of Knowledge: The Keys of Enoch, 1977 (California, USA: The Academy for Future Science).

<sup>104</sup> Hurtak 1977, Key 2-0-7, p. 237.

functions and emotions associated with words. Then it allows the possibility to communicate socially human basic needs and to learn to interact with other people to accomplish certain goals or acquire certain skills. It also enables the possibility of expressing creatively through poetry and metaphor, experiences from the Spiritual Domain.

All this happens in perfect integration with bodily functions and actions. So it is possible that different cognitive maps may coexist in the brain to allow us to function in the physical realm as well as in the spiritual realm, and that the use of certain words, sounds, images and movements may be connected to the firing of certain neurons enabling or disabling different cognitive maps. It is also possible that certain states of being may be accessible through certain genes and proteins, which are derived from amino acid sequences, like GABA an inhibitory transmitter that plays a fundamental role in the human nervous system. This means human beings need to take great care in the way human beings think, feel, and talk because through language people can be domesticated like animals (locked in a neuro-chemistry and cognitive map) instead of liberated sovereign souls (with The Brain of Melchizedek) according to the language provided in the social environment from childhood.

How does our brain cope with spoken and written input to derive meaning? To answer this question we have to know how words are represented in our brain. It turns out that this is a difficult question to answer, but cognitive neuroscience has elucidated a number of key principles... One of the central concepts in word representation is that of the mental lexicon, a mental store of information about words that includes semantic information (what is the word's meaning?), syntactic information (How are the words combined to form a sentence?) and the details of word forms (How are they spelled and what is their sound pattern?). (Gazzaniga et al., 2002<sup>105</sup>, pp. 351-399)

The use of certain languages in certain ways may enable certain neural-pathways, with the possibility to master certain physical laws like gravity to the point of being able to walk on water, heal the sick and communicate telepathically with other human beings or spiritual beings anywhere in the cosmos. More importantly through the use of language people may be inspired to find their spirituality and direct connection with The Creator.

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<sup>105</sup> Gazzaniga, Michael; Richard B, Ivry and George R. Mangun, 2002 Cognitive Neuroscience - The Biology of the Mind 2<sup>nd</sup> edition. (USA: W.W. Norton & Company, Inc.).

In The Torah it is written, “Guard your thoughts”, “What comes out of your mouth is more important than what you put into your mouth”. For me this means, to be careful of what I think, the way I think, what I speak and the way I speak, what I feel and how I empathize with other people. All this, in my own awareness is crucial to the way I experience my life, “Reality”. For example, a person who watches war movies and internalizes those images unconsciously may experience the effects of those images in the body as a consequence of neural and hormonal activity associated with fear, pain, violence and disgust and the confusion of a conflicting thought pattern accompanied with a speech and behaviour akin to those situations. This is particularly important in the case of children who absorb all those images unconsciously developing and learning stressful and destructive behaviour and speech affecting bodily function, both neurally and hormonally.

A neural antidote to this effect is a thought pattern associated to when a person is engaged in meaningful activities based on Love and accompanied with storytelling which leads to inner peace, wisdom and constructive intelligence.

One of the recent contributions in Cognitive Linguistic and Cognitive Science that relates to my own life experience and clearly illustrates some of the structures or principles underlying thought processes, language and perception is Conceptual Blending; in that it broadens the understanding of Personal Transformation, Roles, and Self-Realization amongst others.<sup>106</sup>

Human behaviour is made manifest in the inter-relationships and interactions of people. In this human dynamic, different people may be distinguished by their character, something unique about them presumably realized in their cognitive pathways and schemata (Neisser 1976)<sup>107</sup>. Perception happens as a consequence of stimulus from the environment and schemata; frameworks, cognitive schemes, constructive schemas, qualifiers. It has been proposed that human beings are born with those seeds so to speak and they develop through social interaction and imagination as portrayed in Cognitive Blending (see Fauconnier and Turner 2002) and autopoiesis (Maturana and Varela 1987).

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<sup>106</sup> See Fauconnier and Turner’s The Way We Think. (2002).

<sup>107</sup> Neisser, Ulric; 1976 Cognition and Reality - Principles and Implications of Cognitive Psychology. (San Francisco, USA: W. H. Freeman and Company).

From a Linguistic point of view, this means how people think, how people talk, how people write, how rich a person's verbal expression is, and to which degree a person's words correspond with his or her thoughts and actions.<sup>108</sup> A particular person may change role, situation or circumstance and grow older, yet this person remains recognizable in all of them. Their uniqueness may even be recognized after that person has reached enlightenment (fusion with God's Mind and Spirit) this being an enhancement of personality and their manifested full potential.

Characters, according to their unique qualities and ways of being and acting may also serve as role models or reference points to other people. This means, for example, it can be asked, how this person would act in a certain situation. More specifically, how would Yeshua Ben Yosef act if he were a surfer? Characters are usually associated with names, so the person can be recognized and his or her associated qualities by a particular name, for example, Yeshua Ben Yosef as the embodiment of Unconditional Love and Charlie Parker as the expression of spontaneity and pure melodies.

...a character can stay essentially the same over widely different frames, and a frame can stay essentially the same when populated by widely different characters...Characters, like frames, are basic cognitive cultural instruments. (Fauconnier and Turner 2002, p. 250)

Conceptual Blending or Integration is the consequence of the last twenty-five years research in the area of cognitive science amongst others. There is considerable evidence that reason is encoded, in "Conceptual Integration" (as quoted in Chapter Three (3) of the main body of this thesis):

The neural architectures that evolved to produce perception, sensation, and bodily movement are at the heart of what we experience as a rational inference, conceptualization and meaning construction. (Fauconnier 2001, p. 1)<sup>109</sup>

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<sup>108</sup> See, "What is Language?" of Taylor, John R., 2002 Cognitive Grammar. (USA: Oxford University Press) p. 30-31.

<sup>109</sup> Fauconnier, G., 2001 "Conceptual Integration." Emergence and Development of Embodied Consciousness (EDEC) accessed on 23 July, 2008 from: [www.ifi.uzh.ch/ailab/people/lunga/Conferences/EDEC2/invited/FauconnierGilles.pdf](http://www.ifi.uzh.ch/ailab/people/lunga/Conferences/EDEC2/invited/FauconnierGilles.pdf) -.

Some theories like Metaphor and Mental Space Theory are used to show that approaches to semantics such as, structuralism, generative linguistic and logic based truth-conditional are limited and somehow inadequate, because of their abstract, algorithmic and disembodied views and orientation. This is because some analytic philosophers excluded figurative thought from “core meaning”. These analytic approaches ignored the imaginative operations of meaning construction that occur at a very fast speed, like a shooting star, they leave little trace of their dynamics.

Fauconnier clarifies that process:

Conceptual integration theory, often called “blending” or C.I, is a further development of this line of research. It confirms in novel ways that similar general properties of neural binding and simulation lie behind sensorimotor activities, concrete interaction with the world, human-scale everyday experience, abstract reasoning and scientific or artistic invention...C.I. is a basic mental capacity that leads to new meaning, global insight, and conceptual compressions useful for memory and manipulation of otherwise diffuse ranges of memory. It plays a fundamental role in the construction of meaning in everyday life, in the arts and sciences, in technological development and in religious thinking. (2001, p.1)

Fundamentally, C.I. is the construction of a mental space, which blends in a new way the relationship between input mental spaces in a certain structure mode, therefore dynamically producing Emergent Structures.

It is usual to suggest that there are differences between the way people think, even though the underlying mechanism of the brain is the same. For example: An adult thinks differently than a child, the person that is called a “genius” seems to operate in a different mental way from the people that are called “normal” or “common”; another example illustrates the difference in the mental and imaginative capacities that are operating when musicians play a song reading from a score in contrast to just creating and playing music at the same time, improvising or jamming.

The cognitive spaces of music are so ingrained that performances or connections just arise all the time which embody structures potentiated by the implicit rules of harmony and rhythm so they sound “right”, however to the players there is an important component of feel, mood or vibe which pertains in my view to a shared internal and



subjective space of Spiritual Values which is usually referred to also as harmony or unity.

All these distinctions are in many ways connected to what inspired and is of interest in unraveling the operations behind the construction of meaning from the C.I. point of view.

It is important to mention that Blending is intimately connected to a set of psychological and neurobiological properties due to the constant shift happening in the brain's highly interconnected cells or neural pathways. Therefore there is a relationship between the emergent properties in the blend and the activation patterns of neurons in the brain. As I have said before, this is more than just having access to a different domain (target) from a source domain in metaphorical mapping, because in only having access the brain has yet to create a neural pathway to embody the experience continuously. Having a Spiritual Experience is different than embodying Spirituality. Metaphor may open up the way to a Spiritual Experience, while Blending enables the transformation in the body (the brain) to embody spirituality.

Some of those neural activations came from the forces which are affecting people through the environment, some others from what people say and how those messages are interpreted; from bodily states, purpose and many others related to culture, personal experience, biological evolution, who people are value wise, and ultimately God Consciousness and Global Awareness. Also interesting is the fact that much of shifting activation is the work of imagination striving to find integration (Fauconnier and Turner 2002). Other types of Blending do happen in different ways to integrate conceptual structure and bodily action.<sup>110</sup>

All these examples show the imaginative complexity of activation, matching, and construction of meaning. Blending is working continuously in human thought and action, however it takes awareness and attention to see it, because in many instances the meaning that may be taken for granted is hidden in many situations, behind large complexity.

In order to explore briefly some elements of Blending, an example will be examined about a Buddhist Monk as portrayed in The Way We Think:

A Buddhist Monk begins at dawn one day walking up a mountain, reaches the top at sunset, meditates at the top for several days until one dawn he begins to walk back to the foot of the mountain, which he reaches at sunset. Make no assumptions about his starting or stopping or about his pace during the trips. Riddle: Is there a place on the path that the monk occupies at the same hour of the day on the two separate journeys?

This is an amazing riddle that Arthur Koesther presents in *The Act of Creation...* (Fauconnier and Turner 2002, p. 39)

The monk can also be envisioned by thinking of two identical monks walking up and down the hill on the same day. There must be a place that they meet each other, and that is the place of interest, meaning the solution of the riddle.

The solution of this riddle proposes a major scientific riddle: How is the brain able to arrive at a solution? Because it seems impossible for a monk to travel up and down at the same time, therefore it is impossible for the monk to meet himself. However, this impossible construction in the person's imagination gives the solution he or she is looking for. To imagine the monk meeting himself as if he is meeting another person creates a Blend of two different journeys into one with a new structure emerging in the Blend. This is "the encounter", and this Emergent Structure reveals the solution.

This example reveals the main principle of the network model of C.I. These principles are: Mental Spaces, Input Spaces, Cross-Space Mapping, Generic Space, Blend, and Emergent Structure.

Mental Spaces: are small conceptual packets constructed as people think and talk for purposes of local understanding and action. Mental Spaces are partial. They are interconnected and can be modified as thought and discourse unfold. Mental Spaces can be generally used to model dynamic mappings in thought and language.

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<sup>110</sup> The Way We Think, Fauconnier and Turner 2002. See example, The Genie in the Computer; p. 22-24, and scientific discovery (see example, Crazy Numbers, Chapter 2, p. 24-25).

According to Seana Coulson, “Mental Spaces can be thought of as temporary containers for relevant information about a particular domain.” They can also be represented as pockets of information and certain relationships and dynamics. For example, there is a whole language and context in which surfers convey their experiences and certain key words, like glassy or choppy which activate different Frames. Glassy is usually associated with perfect conditions for surfing whether it is small or big waves, this being desirable, fun to experience and leading to a happy day. On the other hand, choppy is related to rough conditions, strong winds making the experience of surfing harder and less fulfilling. Usually a sentence like, “His first wave was awesome, a glassy tube, five seconds ride” is very meaningful to a surfer and descriptive of a rich situation both objective and subjective.

In the context or Frame of a man surfing, this space is clearly activated and very meaningful for any surfer. Normally, the question that a surfer would ask to add to that Mental Space and therefore change it as conversation proceeds is “How big was the swell?” According to Fauconnier (1994)<sup>111</sup> about Mental Space theory he suggests, that it is a referential structure, Langacker (2000)<sup>112</sup> refers to it as a level of conceptual organization, a mapping between a described scenario and the Linguistic structure describing it. He also describes the concept of conceptual grouping in relation to mental spaces.

Conceptual grouping is likewise encouraged by a variety of factors, some of which have already been mentioned. A distinct *mental space* represents a natural conceptual group; examples include the world of dream, a type description...or a person’s belief or desire...(Langacker 2000, p. 161)

Mental Space theory allows the possibility to represent information about a character in different contexts, where properties about the character may change. For example, Yeshua Ben Yosef working as a cognitive scientist, exploring the relationships between perception, States of Being, gravity and anti-gravity to explore the possibility for human beings to walk on water. However, in his normal life he already walks on water. Mental

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<sup>111</sup> Fauconnier, G., 1994 Mental Spaces: Aspects of Meaning Construction in Natural Languages. (Cambridge: Cambridge University Press. First published 1985 by MIT Press).

<sup>112</sup> Langacker, R.W., 2000 Grammar and Conceptualization. (Werner Hildebrand, Berlin: Mouton de Gruyler).

Spaces are useful to represent different beliefs, possible scenarios of action for planning, different states of consciousness and the access to different worlds of Light among other things.

This pertains to fuzzy domains and conceptions of mental realities and the links between them, and it appears that Langacker is pointing to this issue to help the understanding of Conceptual Blending by highlighting the concepts of both mental spaces and conceptual grouping:

Fauconnier's definition of a mental space is quite broad, and the notion of a conceptual grouping is admittedly vague. It may well be that the terms are coextensive. The former emphasizes the partitioning of our mental world into semi-autonomous zones, while the latter highlights their internal cohesiveness. (2000, p. 392)

In the example of the Buddhist monk, there are two Mental Spaces, one for the ascent and one for the descent; both are connected to Long Term Schematic Knowledge called "Frames". Such is the Frame "walking along the mountain", and to Long Term Specific Knowledge such as memory of the time the mountain was climbed. For example: Mt. Cook, Feb. 1994. These Frames and Mental Spaces can be activated for different purposes like, recalling past events, exploring possibilities of what would have happened if something else had taken place, or what other people believe about the events which took place related to the activation of these Mental Spaces.

In relationship to Frames, Fillmore has given a definition that states that a Frame is a system of categories and that the structure of this system of categories is deeply connected to a motivating context. According to Coulson, "words are defined with respect to a Frame and perform a categorization that takes the Frame for granted". According to this, it seems that meanings arise out of these motivating experiences. An example of that is how the word "wave", "tube", "rollercoaster", "take off", "cut back", "side slip" and "surfboard" are all related to the same art-sport dynamics Frame (surfing dynamics Frame).

Emergent Structure: Properties, which arise in the Blend and are absent in the Inputs, composition of elements from the Inputs, which manifest new relations in the Blend

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only, are products of the emergent structure within a cognitive frame. In this example: two moving monks instead of one. Notice they are moving in opposite directions, and their positions may be predicted and compared at any time, because they are travelling on the same day. Also the fact that he meets himself as two people, one lets say before enlightenment and the other one perfectly centred after meditation. This may give rise to a dialogue where he enlightens his friend (himself) and makes his stay in the mountain shorter due to previous enlightenment.

Completion: brings additional structure in The Blend because the two monks can be viewed moving on the path as part of a background Frame (two people starting a journey at the same time from opposite ends of the path). Finally it can be observed how this structure is incorporated in The Blend by means of completion.

Elaboration: is the process of running the Blend mentally as a simulation and actually capture the dynamic properties present in the Blend, as illustrated in this example, when after some hours of walking up and down the mountain, the monk finally meets “Himself”.

The beauty of this phenomenon is the flash of comprehension, which comes into consciousness as a consequence of constantly maintaining the Inputs across spaces. In the example there is a back projection from the Blend into the Input Spaces, of elements, which are fused in the Blend. This geometric property is completely unconscious and precisely because of that, it seems “magical” when the flash of comprehension becomes a conscious revelation.

Let’s imagine my Dear Reader that suddenly, Yeshua Ben Yosef appears in a Light Body to his scientist Brother and says: “By the way my name is Yeshua; in Hebrew it means Salvation. In Hebrew and according to God’s Laws a person is named after a certain name when that person’s Identity is represented by the qualities associated to his or her name. This means that the person is his or her word and therefore is an embodiment of his or her name. According to this when I say I Am Salvation this is both my name and what I Am. A closer look to my name in Hebrew (Yeshua, ישוע) reveals that it is composed by four letters (Yud, Shin, Vav, Eyin). Each letter is related to a quality of Being (י, Yud = Game; ש, Shin = Truth; ו, Vav = Strength; ע, Eyin = Stillness).

So, you see, each time somebody asks me who am I, and I answer ישוע (Yeshua), what happens is that I am accessing all these states of Being and their interactions. This is also connected to a certain neural-pathway; therefore perception of reality changes for anyone who fuses with me in those qualities by allowing my name to resonate fully with their own cognitive processes and potentially my spirit felt and registered in their spirit. Do you see the Blending?”

“My name is Yeshua (Joshua), I Am Yeshua (Salvation), The Interaction between Game, Truth, Strength and Stillness, this is who I Am. I Love You!”

A little bit like saying, I Am water, my name is water, I Am the Interaction between H and O, I Am H<sub>2</sub>O. Suddenly Yeshua Ben Yosef became water!

Conceptual Blending enables the possibility of actualizing the best human potential, which means for example, bringing alive a core value system in a person, which is part of another person or characters’ core value system, for the purpose (when there is a lack of them) of complementing and providing those values or the means of accessing them consciously. In this case values are equated to States of Being like Love, Certainty and Truth.

For the creature (human being), Truth is a destination, something to be arrived at by mental work/psychological or cognitive work, for God, Truth is the Origin - something manifest in everything that arises and then exists. For a Human Being fused with God, Truth is both the Origin and the Destination; it is also the journey in Time and Space as well as a State of Being (a core Value). This means that the State of Being Truth and its expression and manifestation in life are one. Creature and Creator are One in Yeshua Ben Yosef’s life and words, I Am The Alpha and The Omega, I Am The Truth, The Way and The Life.

For example the scientist feels and sees the possibility that by Blending his Character with Yeshua Ben Yosef, he will become Pure Love or Love and Infinite Wisdom. Another possibility would be for the scientist to fuse directly with the person of God, Yeshua’s Father-Mother, in order to become Pure Love and Infinite Wisdom. However, Yeshua’s Character provides the scientist with a reference point of Love and Wisdom as

being personalized and embodied in a human being, even though, these are God's Values and can be accessed directly from the Source of His or Her Being.

When the scientist becomes those Values then he is Love and Wisdom and therefore One with God. Then, the scientist may genuinely express I Am One with my Father; I Am what Yeshua Ben Yosef is in essence, expressed in the twenty first (21<sup>st</sup>) century as a cognitive scientist. Whoever comes to me comes to God, whoever comes to me comes to Yeshua Ben Yosef and any other Character in the Cosmos who is fused with God's Values. This means that the cognitive scientist has become the embodiment of those Values in conjunction with every single human being or spiritual being who embodies those Values in Eternity or in any Time-Space Zone.

Conceptual Blending serves as a vehicle for Spiritual Experience and the possibility of "Embodied Spirituality", with the aid of powerful transforming creative capacities, with the potential of personal character enhancement and social transformation.

Lakoff and Johnson write:

Exactly how the body and brain give rise to spiritual experience is an empirical question for cognitive science and one well beyond the scope of this book. What we can begin to address, however, is a much more limited question, though an important one. The concept of spirituality in our culture has been defined mostly in terms of disembodiment and transcendence of this world. What is needed is an alternative conception of embodied spirituality that at least begins to do justice to what people experience. (1999, p. 564)

The Father in heaven willed to reveal himself to Moses, without proceeding farther than to cause it to be said, אהיה, "**I AM, I WILL BE**", when pressed for further revelation of himself, it was only disclosed, אהיה אשר אהיה, "**I AM as I AM, I WILL BE as I WILL BE, I WILL BE as I AM, I AM as I WILL BE.**"

Embodied Spiritual Experiences allowed a human being called Yeshua Ben Yosef to express God's thoughts, actions and words: "I Am the Bread of Life", "I Am the Living Water", "I Am the Light of the World", "I Am the Good Shepherd", "I Am the Way, the Truth, and the Life", "I Am the True Vine; you are the branches", "I Am the Light of the World", "I Am the Gate".

All the above are instances of the embodiment of I AM expressed in the words of the human being known as Yeshua (Jesus).

As I mentioned at the beginning of this chapter, a brain which embodies a cosmic mind with access to parallel realities and universes reflected in metaphors like, “My House is a House of Many Mansions” and different domains of existence as a Spiritual Domain may ignite the kind of mental spaces that allow the proper Cognitive Blending for cosmic insight, cosmic unity, wisdom and righteousness. This can be called the mental spaces of Melchizedek.

In The Urantia Book it is written:

*The concept of the I AM is a philosophic concession which we make to the time-bound, space-fettered, finite mind of man, to the impossibility of creature comprehension of eternity existences -- nonbeginning, nonending realities and relationships. To the time-space creature, all things must have a beginning save only the ONE UNCAUSED -- the primeval cause of causes. Therefore do we conceptualize this philosophic value-level as the I AM, at the same time instructing all creatures that the Eternal Son and the Infinite Spirit are coeternal with the I AM...(1955, p. 6)<sup>113</sup>*

To finalize this section, I will elaborate on an example to illustrate how much meaning and connections are involved in Hebrew at the level of the Hebrew letters, a language used to describe the universe, consciousness and the interplay between the Spiritual and the Physical Domain.

For example, the Hebrew word for heart is לב (Lev) and many Mystics and Kabbalists who studied Sefer Yetzirah (The Book of Creation) have noted how important the heart is in mediating the agency of mind and body. In this book, Sefer Yetzirah<sup>114</sup>, The Heart is referred to as The King over The Soul. The Torah is said to be The Heart of creation and The Torah of Moses (The Five Books of Moses) starts with the letter ב (Bet) in the word בראשית (Bereshit, In the Beginning) and ends with the letter ל (Lamed) in the word ישראל (Israel).

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<sup>113</sup> Urantia, 1955 The Urantia Book. (Chicago, Illinois, USA: Urantia Foundation).

<sup>114</sup> Kaplan, A., 1997 Sefer Yetzirah – The Book of Creation, In theory and Practice - revised edition. (USA: Weiser Books).



Israel is called my first born son, known as a vessel, a collective humanity with potential for embodied spirituality. The Creator, **יהוה** (“Jehovah”) calls Yeshua my beloved son in whom I am pleased, which identifies him with Israel. A human whose attributes and values are changed begets a new name as Avram becomes Avraham and Ya’akov (Jacob) becomes Israel. Melchizedek initiates a change in Avram who is the grandfather of Ya’akov, who becomes a collective Israel, a humanity that may embody God’s Spiritual Values. This is a transformation in human consciousness with neural-genetic repercussions.

For example when Avram (**אברם**) is changed to Avraham (**אברהם**) which introduces only one letter of his name (the letter Hei **ה**) which is associated with the Holy Spirit, brings a new presence to his being which is transforming his brain dynamics, physiology and perception of reality.

Yeshua declares I Am The Beginning and The End. Note that the word **בראשית**, (Bereshit, In the Beginning) is formed with different words, **בר** (bar, male), **אש** (esh, fire), also **איש** (ish, man) and the letter **ת** (Tav), the Hebrew equivalent for the Greek Omega, the last of the alphabet. This Person who declares, I Am the Beginning and the End, The **א** (Aleph, Alpha) and The **ת** (Tav, Omega) is described as a male of fire, a man of fire, The End.

In Hebrew the word **תאש** (Ta-ash) may be associated with a container of fire (a spiritual body or even a star, a light body). This word contains the first (1<sup>st</sup>) letter of the alphabet **א** (Aleph), the twenty first (21<sup>st</sup>) letter **ש** (Shin) and twenty second (22<sup>nd</sup>) and last **ת** (Tav).

When added together the numbers associated with these letters, the word **אש** = twenty one (21) + one (1) = twenty two (22). Because **ת** (Container) also equals twenty two (22), the Container may be equated with the Fire. Fire is related to God’s purifying Spirit, therefore the Container and the fire are of one essence, meaning Body and Spirit, My Father and I are One. Also, In The Beginning (pure spirit, fire, light) and The End (Israel, The Body for Spirituality, Matter).

This is a similar equation as  $E=mc^2$  with an additional term, Spiritual Values. When rewritten, it would read  $E(\psi)=m*c(\psi)^2$ , where  $\psi$  (Shin) stands for Truth, The Spirit of Truth, the Spiritual Value of Truth and also for the twenty one (21) Values represented by the Hebrew alphabet and the letter  $\tau$  (Tav) being the twenty second (22<sup>nd</sup>) standing also for Father-Mother. The first one  $\aleph$  (Aleph) stands for Love. Now,  $\tau\aleph\psi$  (Ta-ash), the container of fire becomes Father-Mother-Love with the child  $\psi$  also called Truth.

Back to  $\tau\aleph\psi$  (Bereshit, In the beginning),  $\tau$  (male) also adds to Twenty Two (22) where  $\beta$  (Bet),  $\tau\beta$  (House) stands for The Value of Balance and  $\rho$  (Reish) stands for The Value of Unity. The word man  $\tau\beta\psi$  (ish) adds to thirty two (32) which is equal to the value of the word  $\tau\beta$  (Lev, Heart). Sefer Yetzirah describes the thirty two (32) paths of Wisdom as the twenty two (22) letters of the Hebrew alphabet plus ten (10) sefirot or dimensions of reality which are represented by the letters  $\tau$  = twenty two (22) and  $\iota$  = ten (10), the last two letters in the word Bereshit that also add to thirty two (32).

All of this leaves the reader with a message in seed words, a very encapsulated meaning, which can read as:

The Beginning, Fire, The Spirit created a house with a son, male, a male of fire, a container of fire, a body, matter which is also energy in a different form with the attributes, the spiritual values of the Father-Mother of the universe. This male is the result of an act of Love and contains and is contained by the female and is Called Israel, a seed of The Creator, which is the heart of creation.

From the same word  $\tau\aleph\psi$ , and particularly from a combination of the male, man and the house, came the female  $\tau\beta$  (bat, female) and  $\tau\beta\psi$  (isha, woman) and this completed the alphabet with five (5) additional final letters, a total of twenty seven (27) characters.

This is the unity of male, female, fire under one house and comprised of ten (10) different Sefirot or dimensions, the  $\iota$  = ten (10) (Yud) where the value of  $\tau\beta\psi$  = twenty seven (27) (woman) where the letter  $\eta$  (Hey) the fifth (5<sup>th</sup>) letter of the alphabet is connected to the Mother and Holy Spirit. This is the letter that is added to Avram to get Avraham. The Mother, The Holy Spirit, associated with the I AM presence, in Hebrew,  $\tau\beta\psi\eta$  (Eheeye), "I AM, I WILL BE" which has two times the letter  $\eta$  (Hey). This name for The Creator  $\tau\beta\psi\eta$ , like fire associated with  $\psi$ , also adds to twenty one (21).

This goes on and on and on like scientific research! However, my Dear Reader, I need to end this section and I will do so by finalizing with the following comments for your further exploration and consideration.

<b>אש</b> (fire)	<b>איש</b> (Man)	<b>אשה</b> (Woman)
<b>אהבה</b> (Love)	<b>אבא</b> (Father)	<b>אמא</b> (Mother)

All these words start with א (Aleph) which stands for the Value of Love. Man Woman and Fire share the same constituents and Father-Mother-Love are also related. In Sefer Yetzirah (The Book of Creation) it is written that everything came to be out of the Three Mothers, these being, א (Aleph), מ (Mem), ש (Shin). These letters are associated with Air, Water and Fire respectively א (Aleph), מ (Mem), ש (Shin).

Also, it is known through the Zohar that י (Yud) represents Wisdom and ה (Hey) represents also fire and that establishes another set of relationships between י (Yud) and מ as well as ה (Hey) and ש (Shin). Where י (Yud) is associated to Father and ה (Hey) to Mother. So the name יה (Yah) stands also for Father-Mother and the name יהוה (Jehovah) stands for Father-Mother-Son-Daughter. The word שמים (Shamaim, “Heaven”) is a combination of ש (fire) and מים (water), also associated to Mother and Father respectively.

When the numerical value associated with the name משה (Moses, Moshe) is added to the numerical value associated with The Name אהיה אשר אהיה, (I AM as I AM) in a certain way it results in  $\text{משה}=345 + \text{אהיה אשר אהיה}=543$  which is 888. This number is a signature of God’s Order, the Name ישוע and The Brain of מלכי-צדק (Melchizedek).

The linguistic dimension can be described as a Game the Father-Mother of Creation plays with His children to support them to realise that His Being and the qualities that He is can be comprehended and cognitively integrated in a human being. Thus it is like a cosmic scrabble where each letter is associated with a Value as well as physical manifestations in the universe about that Value. By playing and forming words the relationships between Values and the expression of those Values manifested in life is learned. This Game leads to a global insight in the structure of reality both spiritually

and physically with the aid of a language which feeds back and reflects that in each member of a community of playful children.

A simple example would be to consider the letter Bet ב which is related to Balance, also to the word house בית (Bait or Beit). In this way a sense of Balance is connected to a sense of Home and to meditate on ב Bet leads to a sense of belonging, of being home in the universe. This is useful when a human being loses his or her sense of balance and feels abandoned, cognitively the associations to the letter ב Bet or the word בית Bait/Beit may trigger the neural dynamics to restore in him or her the Value of Balance. This meditation can be accomplished with different letters, different qualities and for different purposes in life.

### **B.2- Emotional Function (Electrophysiological Coherence)**

This section is intended to illuminate the dynamic relationship and interactions between the spiritual realms and this physical world by reviewing briefly some aspects of emotional functioning and its connection with the heart and physiology in general.

I will also expand on some recent scientific findings on psychophysiological correlates of Spiritual Experience, findings which may help to bridge the gap and understanding of this dynamic relationship between the Spiritual and Physical Domains. This is a distinct mode of physiological functioning termed Psychophysiological Coherence linked to sustained positive emotions in the Human Being and the possible by products related to this of: telepathy, remote viewing, and the constant awareness and recognition of the continuous flow of synchronistic events. (Childre and McCraty 2001)<sup>115</sup>

In recent years a new line of research has been developed by the name of Psychophysiological Coherence. This is a state of psychophysiological functioning that is characterized by heart rhythm coherence, increased heart-brain synchronization and entrainment of diverse physiological oscillatory systems. This state (coherence) is associated with increased emotional stability, improved cognitive performance, a range

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<sup>115</sup> Childre, D. and R. McCraty; 2001 “Psychophysiological Correlates of Spiritual Experience.” - Biofeedback 2001; 29(4):13-17).

of positive health related outcomes and feelings of increased spiritual connectedness. (Childre and McCraty 2001)

Coherence is associated with positive states of being (thoughts and emotions) with the associated benefits of improving health, an increase in longevity, cognitive flexibility and creativity. It induces generosity, co-operation and a shift in perception where the person experiences more presence, beauty and synchronicities amongst others.

In contrast, in the absence of coherent states and the presence of negative states of being (thoughts and emotions) the person may experience the inconvenience of inner noise. This is associated with a negative feedback loop with the tendency to emotional crisis, which in some cases are difficult to separate from a person's sense of identity.

According to Rollin McCraty of HeartMath Institute, the heart has a significant role to play in attaining coherent states of being. It is regarded as a point of spiritual influx, a source of wisdom and positive emotion such as Love, with an intrinsic nervous system capable of decision-making independent of the brain. The heart says McCraty, is now recognized as a sensory organ, a sophisticated information model of emotion and together with the brain, nervous and hormonal systems, acts as a fundamental component of the dynamic, interactive network that underlies emotional experience. This may help to explain some of the strange effects in heart transplant victims.

Coherent states can be obtained by coherent feedback training, a tool to help people learn to self generate states of increased physiological coherence at will, thereby, reducing stress, and improving healthy emotional well being and performance, something related to biofeedback which is being studied and developed in recent times.

According to different Scriptures, Testimonies, Divine Revelations and my own experience, sustained positive emotions can also be obtained by an ongoing relationship with the Universal Source of Love and the aid of a Language of Light (pictographs and sounds). Scriptures, prayer, meditation and contact with nature may support the efforts of being in touch with the spiritual realm and acting in God's Will.

The key factors to this line of research are that in the experience of negative emotions such as anger, frustration, and anxiety, heart rhythms become more erratic or disordered indicating less synchronization in the reciprocal action that results between the branches of the autonomic nervous system. In contrast sustained positive emotions, like appreciation and Love are associated with a highly ordered and coherent pattern in the heart rhythm, reflecting greater synchronization between the two branches of the autonomic nervous system, and a shift in autonomic balance toward increased parasympathetic activity.

One of the most important aspects of this line of research is that entrainment happens between different body systems like the brain, heart, respiratory, digestive and autonomic nervous system when a person has put his or her attention consciously or unconsciously to the area around the heart. This is associated with the experience of Love towards him or herself, other fellow human beings and Creation in large.

Some other findings in this line of research are related to the transfer of heart electromagnetic energy between people. Many healing modalities involving contact and proximity between practitioner and patients including therapeutic touch, reiki, shiatsu amongst others, are based upon the assumption that an exchange of energy occurs to facilitate healing. While there exists scientific evidence to substantiate the physiological and psychological effects of many of these treatments, science has as yet been unable to describe a mechanism by which this energy exchange between individuals takes place.

Recent research has shown that the hearts electromagnetic field decreases in electrical coherence as an individual becomes angry or frustrated and increases in coherence as a person shifts to positive emotional states, such as sincere love, care and appreciation. (McCraty 2002)<sup>116</sup>

Preliminary results indicate, further, that individuals who intentionally increase their cardiac coherence by maintaining a focused state of sincere love or appreciation can

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<sup>116</sup> McCraty, R., 2002 "Heart Rhythm Coherence - An Emerging Area of Biofeedback." *Biofeedback* 2002; 30(1): 23-25.

induce changes in the structure of water and in the conformational state of D.N.A. (McCraty et al., 1998, pp. 359-380)<sup>117</sup>

In their paper, “The Electricity of Touch: Detection and measurement of cardiac energy exchange between people”, Rollin McCraty, Mike Atkinson, Dana Tomasino and William A. Tiller, present some results gathered over several years of experimentation that provide some evidence of the exchange of electromagnetic energy produced by the human heart when two people touch or are in proximity. They also present an experimental protocol that allows such an affect to be measured. This means that a person in a coherent state of being is capable of transferring that state of being to another person by touch or being in proximity. (McCraty et al., 1998, pp. 359-380)

This leads to the acknowledgement of the relevance and importance of one’s thoughts and emotions in combination with words, symbols and signs in understanding and shaping reality. Also, how important it is to be internally stable in one’s Spiritual Identity in relationship to The Creator before attempting to interact with other beings and spiritual realities.

In The Book of Knowledge: The Keys of Enoch, Dr. J. J. Hurtak writes regarding the prerequisites to interact with other spiritual worlds or realms:

Man must understand how the chemical storage process in our brain can be connected with any number of minds which branch throughout the galaxy with pulsating consciousness grids. Here the brain storage can open and connect with the filaments of the collective galactic brain existing in space-filling space-energy. By standing in awe of the many divine minds coded into the divine template, self-realized Man understands.....Your body must first be physically tempered and spiritually synthesized before it can understand its work now, in relationship to previous or simultaneous programs of creation. Unless your body can work on multidimensional planes, you cannot receive other multidimensional levels of in-formation without going completely insane according to this level of reality. (1977, Key 3-1-2, p. 465, vs. 109-112)

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<sup>117</sup> McCraty et al., (Mike Atkinson, Dana Tomasino and William A. Tiller) 1998 “The Electricity of Touch: Detection and Measurement of Cardiac Energy Exchange Between People.” (Paper 14, pp. 359-380). In, Brain and Values: Is a Biological Science of Values Possible? K. Pribram - Editor. (Mahwah, New Jersey: Lawrence Erlbaum Associates Publishers, 1998)

Based on all of the above a heart-brain connection linked to the centers involved in emotional processing can be foreseen. Only just recently neuroscientists are beginning to understand, from the point of view of the brain, the mechanisms by which the orbito-frontal cortex uses emotional information to assist in decision-making. As I have mentioned in Chapter Three (3), scientists like Edmund Rolls (1999), have suggested that the orbito-frontal cortex is necessary for quick evaluation of stimulus reinforcement associations and that this evaluation has its own mechanism of adaptation to changes in the environment.

Scientists like Rolls (1999)<sup>118</sup>, Allan Schore (1998), Pribram (1971, p. 166)<sup>119</sup> and Antonio Damasio (1994)<sup>120</sup> agree that the orbito-frontal cortex plays a significant role in human's ability to respond and act in a social environment where there is an exchange of emotional input between people. Also, that the decision-making process of a human being is based on an evaluative system that is stored in the frontal limbic cortex and takes into consideration the emotional qualities of a stimuli in order to access how meaningful it is, and what actions are adequate. Most of the scientists also agree that the amygdala is one of the main neural structures that interact with the orbito-frontal cortex in emotional processing.

Also scientists like Damasio of the University of Iowa proposed a theory about how emotion influences every day rational decision-making.

In his book Descarte's Error, Damasio writes:

A question may arise here about the degree to which rational and nonrational processes are aligned respectively with cortical and subcortical structures in the human brain...I now turn to emotion and feeling, central aspects of biological regulation, to suggest that they provide the bridge between rational and nonrational processes, between cortical and subcortical structures. (1994, p. 128)

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<sup>118</sup> Rolls, Edmund T., 1999 The Brain and Emotion. (Oxford/New York: Oxford University Press).

<sup>119</sup> Pribram, Karl H., 1971 Languages of the Brain: Experimental Paradoxes and Principles in Neuropsychology. (Englewood Cliffs, New Jersey: Prentice-Hall, Inc.).

<sup>120</sup> Damasio, Antonio R., 1994 "Descartes" Error - Emotion, Reason and the Human Brain. (New York: A Grosset/Putnam Book).



Damasio introduced the concept of somatic markers and he states that they are:

...acquired by experience, under the control of an internal preference system and under influence of an external set of circumstances which include not only entities and events with which the organism must interact, but also social conventions and ethical rules. (1994, p. 179)

Damasio points out that the prefrontal cortex is highly interconnected with the processing of emotions, he writes:

The prefrontal cortices thus contain some of the few brain regions to be privy to signals about virtually any activity taking place in our being's mind or body at any given time. (1994, p. 181)

He also points to the entorhinal cortex as the gateway to the hippocampus, another area of the brain that is connected to many different brain activities.

In the book The Brain and Emotion, Edmund Rolls proposes a definition of emotion as "...states elicited by rewards and punishers, including changes in rewards and punishments." He also makes a distinction between moods and emotions stating as follows:

A useful convention to distinguish between emotion and a mood state is as follows. An emotion consists of cognitive processing which results in a decoded signal that an environmental event (or remembered event) is reinforcing, together with the mood state produced as a result. If the mood state is produced in the absence of the external sensory input and the cognitive decoding (for example by direct electrical stimulation of the amygdala.....), then this is described only as a mood state, and is different from an emotion in that there is no object in the environment towards which the mood state is directed. (1999, p. 62)

It is important to say that Damasio also makes a distinction between emotions and feelings. One of the functions of emotion says Rolls is in social bonding that can be identified with the attachment of the young to their parents and also the attachment between father and mother.

A mood is different from an emotion in that there is no object in the environment towards which the mood state is directed, Rolls suggests that the amygdala is also involved in the processing of moods. He points to a fundamental limitation of different theories like Damasio's (1994) that are related to the concept that feedback from parts of

the periphery like the body and the face, lead to emotional feelings because of the lack of an adequate account of how the peripheral change is produced only by the stimuli that produces the emotion.

In their book From Conditioning to Conscious Recollection, Howard Eichenbam and Neal Cohen write:

The first theoretical proposal of a brain system for emotion was provided by Papez (1937). He proposed that sensory experiences took distinct pathways for “thought” and “feelings”. The stream of thought, he proposed, involved channeling the sensory inputs from the thalamus to the wide expanse of the cerebral cortex on the lateral surface of the brain. The stream of feeling, he argued, followed a different path from the thalamus to the medial cortical areas known as the limbic lobe plus the neighboring hypothalamus.....Recent research has brought focus on emotional memory to pathways through the amygdala. (2001, pp. 395-396)<sup>121</sup>

One question that Eichenbam and Cohen propose is that if memory for emotions is just a part of declarative memory or if there is a different memory system for emotional memory, or if emotion only enhances memory processing. They answer these questions by stating (2001, p. 403), “Certainly we do consciously recall emotional experiences, so these clearly can be a part of declarative memory.”

Recent research has also shown that the amygdala and hippocampus circuit play a fundamental role in Pavlovian fear memory.

In an article, “Amygdalar and Hippocampal Theta Rhythm Synchronization During Fear Memory Retrieval” Thomas Seidenbeche et al<sup>122</sup> show that the amygdala and the hippocampus act as a feedback system of emotional, spatial and declarative memory processing.

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<sup>121</sup> Eichenbam, Howard and Neal J. Cohen; 2001 From Conditioning to Conscious Recollection. (Oxford/New York, Oxford University Press).

<sup>122</sup> Seidenbeche, Thomas et al., 2003 “Amygdalar and Hippocampal Theta Rhythm Synchronization During Fear Memory Retrieval.” *Science* Vol. 301, August 8, 2003.

These and other findings lead to the possibility that the major systems involved in the processing of emotion are the limbic system, the amygdala, hippocampus together with the orbito-frontal cortex and the basal ganglia.

### **B.3- Executive Function (Pregnancy and Values)**

All of the different theories, hypotheses and lines of research that I have mentioned in different chapters and the last sections, taken together, provide a framework of reference to scientifically approach with some basic considerations, the statement that the **development of the brain in early life is experience dependent:**

1. Mental spaces have an impact on the neural mechanisms of the brain.
2. Memory systems are both local and non-local to the brain.
3. Morphic mental fields and/or interpersonal resonance may affect the thought processes and mental spaces of human beings.
4. A dyad: A mother/child relationship can be described as a dynamical feedback system.
5. Brain functioning is highly dependent on the heart, respiratory and autonomic nervous system, showing synchronized and entrained ways of functioning in the presence of coherent states and sustained positive emotions.

Ideally a child will transform from creature status, being a reactive animal or organism to its environment, to a social human being and finally and ideally to a God Conscious person with Spiritual Personality and Character Identity. This means that the new born baby by interacting with its first caregivers, often the mother, could develop and learn an evaluative system that is already in place in the mother. It is important to mention that this interaction may start taking place in the womb, and that some genetic factors may be inherited by the baby in relationship to the evaluative system that he or she will carry in his or her life. (Lipton 2008)<sup>123</sup>

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<sup>123</sup> Lipton, B., 2008. Perception of Biology - 7 video clips. Accessed online 31 October, 2008 from <http://www.youtube.com/watch?v=hLZ7GqWpEqM>.

Many questions can be raised in this respect, some of them are:

1. If one or both parents are deeply in Love and blessed by the Presence of God in the moment of conception, how will this affect the developing fetus?
2. If both parents are an embodiment of Love, Truth, and Certainty, and sustain the continuous expression of positive emotions in God's Presence, then what kind of cognitive map and value system is going to develop in the child?
3. What kind of value system will develop in the brain of that child if the parents are continuously angry and fearful, and project those negative emotions to the child?
4. In the worse case scenario what kind of value system will develop when the mother has been subject to drug or alcohol consumption, or other kinds of emotional and mental disorders or abuse?
5. If certain boundaries are projected to the baby through fear or reward conditioning then how will these boundaries affect the evaluative system. Which mechanisms or aspects of the value system will operate in the brain to free up the child from these boundaries when they become an obstacle to his or her development, instead of a protection?
6. Is the boundary system imposed by reward and fear conditioning subject to a Higher value system that encompasses Love, Truth, Certainty, Mercy, amongst other qualities that are inherent to every human being baby born. Or is the boundary system continuously being transformed by learning how to integrate these qualities that can be transferred in personal relationships later on in life, to overcome fear conditioning?
7. Is the value system that the baby inherits from the mother, subject to change through interactions with different value systems in other people or is that human being condemned to be in conflict with another human being with a different value system?
8. If a child is taught in a loving way that it is dangerous to approach fire, then he or she may overcome that boundary later on by learning to cook potatoes with his or her elder brother or sister. Would it be different to overcome the boundary if he or she was taught through fear and emotional abuse the same boundaries? Are there any limits or thresholds in learning through fear and reward conditioning that will create a trauma, a misperception of reality, and

a distorted value system with self-destructive repercussions for the human being?

9. Does the value system of the mother change by interacting with the newborn baby, a pure and innocent soul. Meaning, are there new qualities awakened in the mother by the child that may transform the value system of the mother thereby safe guarding the innocence of the child.

It is known from studies that the lips of a child with Fetal Alcohol Syndrome (FAS) are thinner for example (Abel, 1984).<sup>124</sup> In a similar way that alcohol can damage the neural development in the fetus, prayer and Love may enhance the neural development of the fetus. Are there any anatomical signs that can be scientifically validated for example, the shine in eyes, the shape of the lips, the size of the forehead, and the symmetry of the body and face?

I am aware that from a scientific perspective this section raises many questions and that to answer all of these questions with a scientific approach may take an eternity because of the complexity involved in the interaction of all the bodily systems of a human being in relation to other human beings and spiritual realities limited to the current states of science and the present paradigms.

In this section I will propose an enquiry and exploration of ideas and facts about some organs and areas of the brain that may be involved in the development of an evaluative system in the child's brain under certain premises. The emphasis will be on the effects that a loving caregiver may have in facilitating the transference of a Universal Value System of Higher Order, capable of regulating the continuous transformation of boundaries for the manifestation of the full potential of a human being.

The following quotes provide a set of scientific findings that may be related to the areas of the brain that are involved in the maturation of an evaluative system in the cortex, and the possibility that the maturation of such a system might be experience dependent.

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<sup>124</sup> Abel, Ernest L., 1984. "Prenatal effects of Alcohol, Drug and Alcohol Dependence." Volume 14, Issue 1, September, pp. 1-10.

In “The Experience-Dependent Maturation of an Evaluative System in the Cortex,”<sup>125</sup> Allan Schore suggests and gives evidence that the maturation of an evaluative system is experience dependent and takes place in the frontal limbic cortex. He also proposes that this process is shaped mainly by face-to-face synchronized interactions in which the caregiver (usually the mother) psychobiologically tunes into the child’s internal state to establish a connection, or a feedback system of mutually regulated arousal.

When given an opportunity for enough of these interactions and an established connection, the child develops a bond or attachment with the caregiver (let’s say the mother) that allows him or her to inherit the mother’s right cortex configuration as a matrix for his or her own neural connections in his or her own right cortex. This enables within the baby a mechanism to mediate his or her expanding cognitive effective capacities, in order to evaluate changes both externally and internally to the point that Schore writes:

It has been said that in early infancy the mother is the child’s “auxiliary cortex”... There is now solid evidence that the parenting environment influences the developing patterns of neural connections that underlie behaviour..., including attachment behavior. (1998, p. 344)

Based on different scientific findings and his experience he proposes that the orbito-frontal cortex controls the limbic system and is also interconnected with the autonomic nervous system and it develops and grows in the right hemisphere in the first years of life. The right hemisphere will serve mainly for the processing of socio-emotion and for the regulation of body states. Schore also writes:

This cortex, acting in an “evaluative” capacity, thus functions to refine emotions in keeping with current sensory input, and allows for the adaptive switching of internal bodily states in response to changes in the external environment that are appraised to be personally meaningful. [This can also be described in terms of the cortex as the area for cognitive blending] (1998, p. 337)

One of the key factors in his research is that communication in human beings is both verbal and non-verbal. He called this type of communication psychobiological,

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<sup>125</sup> Published in Brain and Values: Is a Biological Science of Values Possible? K. Pribram - Editor (Mahwah, New Jersey: Lawrence Erlbaum Associates Publishers, 1998).

establishing an integrated interaction between mind and body that involves transactions in both the central and autonomic nervous systems. This reveals a self-organizing feedback system between social cognition and emotion that are central to a series of psychobiological processes involving the mind and the body, the cortex and the sub-cortex.

All these findings says Schore,

.....are imprinted into the neurobiological structures that are maturing during the brain growth spurt of the first two years of life, and therefore have far-reaching and long enduring effects. (1998, p. 339)

It has been said metaphorically that the eyes are the window of the soul and that sometimes things are known by heart, it seems to me that according to McCraty's and Schore's studies, these metaphors are alive, a real experience subject to scientific validation.

In this respect Schore writes:

In fact, over the first year of life visual experiences play a paramount role in social and emotional development...The mother's emotionally expressive face is, by far, the most potent visual stimulus in the infant's environment, and the child's intense interest in her face, especially in her eyes, leads him to track it in space, and to engage in periods of intense mutual gaze. The infants gaze, in turn, reliably evokes the mother's gaze, thereby acting as a potent interpersonal channel for the transmission of reciprocal mutual influences...Indeed, a body of research demonstrates that gaze represents the most salient channel of nonverbal communication and indeed the most intense form of interpersonal communication. (1998, p. 339)

All of this suggests a hidden dimension by which the caregiver's nervous system regulates the infant's internal homeostatic systems. In relation to Hofer's work Schore writes:

His work reveals that the mother influences the neural substrates for infant emotion by directly regulating the neurochemistry of the infant's maturing brain, including arousal-regulating dopamine and noradrenaline levels, in order to generate high levels of positive affect...The attachment relationship is thus essentially a regulator of arousal. (1998, p. 342)

Fundamentally all of this means to me that the relationship between mother and child or between any two human beings, when based on Love, affects their hearts, brains, central and autonomic nervous systems by creating a bond or attachment that allows the diad to maintain optimal levels of positively valenced states. When sustained for a long enough time this may have a long lasting effect especially in the child and also between adults.

All of this reminds me of the statements in scriptures like, “Love God with all your mind and heart”, “Love your brother as yourself” and “Be Perfect as I AM”.

It is also interesting to see that when father, mother and children are honoured by showing appreciation and Love for each other, this bond of Love with its subsequent effect in the brain may be initially inherited by the child.

Schore writes:

Trevarthen concludes that the “affective regulations of brain growth” are embedded in the context of an intimate relationship, and that they promote the development of cerebral circuits. This interactive mechanism requires older brains to engage with mental states of awareness, emotion, and interest in younger brains, and involves a coordination between the motivations of the infant and the feelings of adults. (1998, p. 343)

A good final point for this section and perhaps the beginning for further research is to introduce the reader to some of the more recent findings about Love in the areas of Neurophysiology and Neurobiology, directed to address questions like what is Love, and how it affects the brain.

Relatively recently, Pitkow et al. (2001) in studies about behavioural correlates of increased Vasopressin receptor (V1aR), in the ventral pallidum (VP) in male voles raised the following questions: Are animals capable of experiencing Love? Because it is known that from other research studies that the area of the VP is activated in response to addictive drugs. Could it be possible that Love has an addictive component; shall it be said for survival purposes and health? Plasma vasopressin increases in human males during sexual arousal. What is the difference between Love and sexual arousal? This leads to the possibility that a behavioural measure of affection may lead to differentiate between the relationship of vasopressin to attachment and Love. More research on human beings may be required to find out the difference between attachment and Love,



where one is an emotionally and reward driven behavioural pattern (attachment) and the other one, a Universal Value or State of Being, without any object of attachment and impersonally expressed and embodied. So, if attachment and affection are determined to be a component or a bodily effect of Love then vasopressin maybe a neurophysiological mediator.

Kurup et al. (2003) conducted studies about human neurophysiology showing that Digoxin: membrane Na<sup>+</sup>-K ATPase acts as an inhibitor that can regulate neural transmission. It seems that Digoxin is related to the predisposition to Love in human beings. The main finding in this respect is that decreased Digoxin levels are related to a higher predilection to Love another person. Also, it seems that left hemisphere dominance is related to a higher predisposition to Love.

Another study conducted by Bartels and Zeki (2000), explores which areas of the brain are activated by Love. It was shown that volunteers that were “truly in love” had higher sexual arousal and feelings of Love when gazing at partners, than gazing at friends, showing that the Love feelings were dominant with a higher galvanic skin response towards the loved ones than friends. Also fMRI activation to images of loved ones compared to friends showed the same pattern where several areas of the brain were involved, namely the Anterior Cingulate (Ac), Cerebellum (Cer), Insula (I), Posterior Hippocampus (Hi), Caudate (C), and Putamen (P). Most of these areas have been found to be active in relation to emotions. Also, in this research it was found that Love differentially deactivates some areas of the brain, namely the Posterior Cingulate Gyrus (Pc), Medial Prefrontal Cortex (Mp), and the Left Amygdaloid Region (A). It is important to mention that the right prefrontal deactivation has already been found to correlate with states of happiness. It is also known that certain regions of the Amygdala when activated correlate to fear, sadness and aggression.

These peculiar activation and deactivation patterns due to Love may lead us in the direction of inquiring to the kind of brain structures that a person who is able to live in peace under any circumstance displays, it reminds me of the kind of Peace which surpasses all human understanding.

All of these studies show that localizing Love or its affect in the brain seems to be a complex task for many reasons amongst others because of the wide range of interpretations of what Love means. There is some evidence at least that some components, effects or types of emotions and feelings associated with Love can be localized in the brain.

So, my Dear Reader, I will leave you with some questions to ponder:

- If you accept that the responsibility of being Peaceful and Coherent falls completely on you and if this is a real choice then I raise a very important question to you right now, are you Coherent and Peaceful at this moment, are you experiencing the Value of Love while you are reading?
- Can human beings experience Love with any other human beings as strongly as partners and mother and child can, without necessarily experiencing sexual arousal or attachment?
- “Fear not and know that I Am Lord”. Is this promise fulfilled by the deactivation of certain areas of the amygdala, by the activation of a Higher Order Value System in the right prefrontal cortex, or both?
- Is the deactivation of certain areas of the hippocampus in the processing of declarative memory also part of that promise which declares: “Love is kind, Love is patient, Love holds no records of rights or wrongs.”
- In which way is Forgiveness related to forgetting and living in the present?

Finally I am in wonderment when I reflect on what kind of brain configuration many Prophets and Tzadikim would have displayed and particularly I conjecture that the human being known as Yeshua Ben Yosef (ישוע) had a perfect Amygdala, possibly with some differentially deactivated areas of the brain, namely the Posterior Cingulate Gyrus, Medial Prefrontal Cortex, and the Left Amygdaloid Region, and an outstanding value system encoded in his Right Hemisphere Prefrontal Cortex as a consequence of a God-Mother-Father-Child experience-dependent relationship. Of course at this present moment we are faced with an intractable hypothesis however, may this be the reality for every child born on earth, Paradise Landing!

# Appendix C

## A Brief Introduction to the Neuro-Genetics of Spirituality

This appendix is devoted to the benefits associated to The Brain of Melchizedek and the evolution of the neural-genetic pathway to Peace both Locally (Individual) and Globally (The Human Family).

To attain Global Peace, humanity as a system requires that each of its elements (each person) finds internal peace through their connection with the Source of all Spiritual Values. This individual process of personal peace and coherence affects the whole of humanity. Each person contributes and is responsible for humanity by fulfilling his or her own inner state of peace and harmony. As more people enter this state of peace individually, the whole also changes and peace starts to emerge, which in turn may affect also the speed at which people attain that state. I will describe it as a dynamical system of peace propagation.

In order to describe and study **Peace Propagation** and in general, **Spiritual Values Propagation** as a dynamical system, I will introduce the reader to a new Systemic idea, described as a dynamical system of Peace Propagation or Spiritual Values propagation, something that could be called Pneumadynamics, Ruachdynamics, Theodynamics or in the context of this thesis **Melchidynamics**.

I will define Melchidynamics as the study of the system of interactions, which enables God's intervention in the world by the agency of The Brain of Melchizedek. This may happen through nature and particularly human interactions and becomes part of the human consciousness. It emerges from the universal principle and prerogative of God's intervention in the universe of energy and matter and particularly in human life, by the agency of human beings, who are consciously or naively unified in action and expression with God's Spirit and are becoming aware of or have attained God Consciousness.

Melchidynamics is concerned with the study and understanding of the delicate fabric of interactions between Spiritual Values like Love, Truth, Humour, Grace to name a few and their electromagnetic and quantum effects (both macro and microscopically) in the universe and particularly in human physiology, neurobiology, perception and human dynamics.

This field of study will facilitate the understanding of the transition of a violent war-like system to a harmonious Love-Based one, a peaceful human development and its associated neural-genetic dynamics. From it emerges the possibility for the transition of the human species from a survival primitive based cognitive map to a Cosmic and Universal Spiritual-Value-Based cognitive map.

A field like this contributes to the understanding of the transition of a fragmented humanity with conflicting beliefs and boundaries like nation states, into a coherent family like humanity, unified in the essence and presence of Universal Spiritual Values in the midst of diversity and cultural expression.

Melchidynamics may be regarded as an intellectual scientific cocoon for spiritual transformation, similar to the one in which the caterpillar is transformed into a butterfly. This can be described as a scientific Metanoia.

As a systemic field of study it uses mathematical modeling and computer simulation to derive understanding and knowledge to clarify language, in articulating new insights for cognitive integration and new emergent cognitive maps and paradigms of reality.

An adequate start is to the understanding of the interaction of Spiritual-Value-Based electromagnetic and matter fields and neural-genetic feedback loops.

A human who is an agent of Spiritual Values may exhibit a certain coherent electromagnetic presence in the world, a wave like signature which modulates perception of reality and brain-heart and bodily systems dynamics, eventually reflected in gene expression with its consequent neural-dynamics and cognitive maps.

This opens the possibility to validate the **hypothesis** that:

- Spiritual Values affect brain processes through the electromagnetic, quantum and matter fields.
- That certain genes or gene interactions may be passed from one generation to the other to guarantee the survival of the human species in the state of collective peace and individual awareness to God Consciousness.
- That sacred ancient text reflects this knowledge through different stories, metaphors, historical events and cosmologies.
- And that human potential when actualized in the light of Spiritual Values may lead to telepathic communication, telekinesis, healing, prophecy amongst other abilities.

A question that may be answered or at least explored under different scenarios is how long does it take for this transformation to take place both individually and collectively. Which kind of environment or community facilitates or interferes with this transformation. Which kinds of diet and meditation practices are more adequate for different people? Here arises the need to study two kinds of delays to the attainment of God Consciousness: Individual Delays and Collective Delays.

Some of the studies that immediately come to mind to be considered as an initial attempt in the field of **Melchidynamics** are related to the work of Dean Hamer (The God Gene)<sup>126</sup>, Moshe Szyf et al. (Epigenetics)<sup>127</sup>, Mari Jibu et al. (Quantum Brain Dynamics and Consciousness), Leonid I. Perlovsky and Robert Kozma (Neural Dynamical Modeling and Consciousness)<sup>128</sup>, Oschman (Energy Medicine Therapeutics)<sup>129</sup> and

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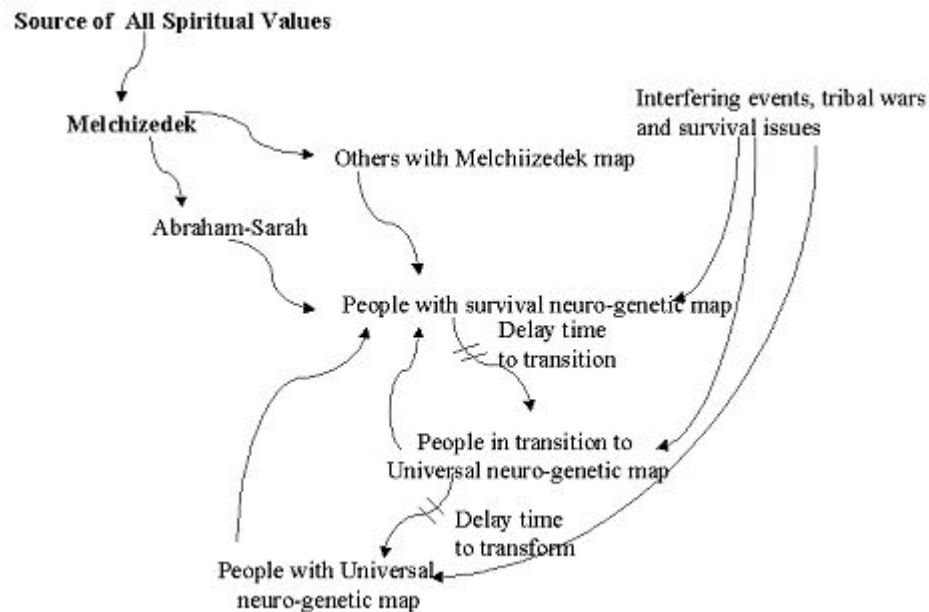
<sup>126</sup> Hamer, D., 2004 *The God Gene - How Faith is Hardwired into our Genes*. (New York: Anchor Books).

<sup>127</sup> Szyf, Moshe, Ian Weaver and Michael Meaney. 2007 "Maternal care, the epigenome and phenotypic differences in behaviour." *Reproductive Toxicology* 24, 9-19 Review (Elsevier Inc.), available online at [www.sciencedirect.com](http://www.sciencedirect.com) 25 August, 2008.

<sup>128</sup> Perlovsky, Leonid I. and Robert, Kozma; Editors (2007) *Neurodynamics of Cognition and Consciousness*. (Verlag Berlin Heidelberg: Springer).

<sup>129</sup> Oschman, J., 2003 *Energy Medicine in Therapeutics and Human Performance*. (China: Butterworth Heinemann, Elsevier Ltd.).

Nikola Kasabov (ECOS and Neuro-Genetic Modelling)<sup>130</sup> amongst others. Their work is too extensive to be covered in this thesis however it is important to note that taken together they allow for the conception of an initial model to stimulate research and facilitate the understanding and further study of Spiritual Values and the field of **Melchidynamics**. Following is simplified diagram of the Melchizedek “**Peace Propagation**” systems dynamics model.



**Figure 1.**

### **C.1- Quantum Brain Dynamics and Consciousness**

Systems dynamic diagrams are useful to tell a story, in this case the story of the change of brain processes and cognitive maps through the agency of electromagnetic fields and Spiritual Values fields. Let’s use the systems diagram in conjunction with the story of Melchizedek and Abraham and blended with the Paradigm of Melchizedek and its scientific implication.

<sup>130</sup> “Adaptive Neural networks, Gene Networks, and Evolutionary Systems - Real and Artificial Evolving Intelligence.”(2003, pp. 1381-1384); “Computational Neurogenetics.” (2004); and Benusbova and Kasabov, Computational Neurogenetic Modeling. (2007).

**Melchizedek, King of Peace and King of Righteousness** shows up in Abraham's life embodying Values like Grace, Love, Truth and Peace, this integrity and hyper-coherent state is picked up by Abraham electromagnetically and through the quantum field when he acknowledges Melchizedek as a Priest of The Most High God. This electromagnetic impression is so strong that since then Abraham gradually develops a cognitive map which gives him access to that state of coherence for long periods of time and when he is upset by survival issues this new cognitive map very quickly is reinstated in his memory processes. This new psychophysiological state of being he shares with everyone who comes to him and receives him as a friend, causing an impression in everybody else similar to the one that Melchizedek caused in him. This new cognitive map and new coherent state starts to propagate in humanity, however the speed of propagation may decrease in time due to the integrity and the quality of impression that the new transmitter embodies. Now there are different people transforming at different rates as well as a propagation process within the collective.

## **C.2- Gene Propagation and the Epigenetics of Consciousness**

After a period of time the females who have transformed notice that their offspring have developed since childhood the new cognitive map and coherent states which eventually lead them to the realization that as the immediate family and community stays coherent the genes and the ancestral information of coherence express with shorter delays in the population since childhood, something that Melchizedek foretold would happen. This leads Abraham and Sarah to the conclusion that if a baby is born of a coherent mother then more likely the child will show coherence very soon (Moshe Szyf et al. 2007 and Lipton 2008). Taken together neuro-genetics and Spiritual Values raise a major warning as to how much or when are humans really acting on the genetic code to the transformation of the species for such a Spiritual Order to be attained. These warnings are reflected in many cultures and people who ascribe sacredness to genetic information (Gillett and McFergow 2007)<sup>131</sup>. These warnings have also been raised as to how we are to discern when humans are acting as God's agents in the world particularly through scientific research on the gene code and when this is just human pride and arrogance

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<sup>131</sup> Gillett, G. and F. McKergow; 2007 "Genes, ownership, and indigenous reality." Social Science & Medicine 65 (2007) 2093-2104 (Elsevier).

which could damage the blue print by which the sacred and the divine in each of us manifests biologically through the delicate fabric of spiritual neuro-genetics. “In considering the limits of the dominion delegated to human beings by God, we have two biblical perspectives.” (Jones 2007<sup>132</sup>, p. 131)<sup>133</sup>

### **C.3- Interference with Coherence**

Abraham and Sarah also realize that as the community members struggle with survival needs, tribal wars and diseases the transformation delays and sometimes in cases with strong physical and psychological traumas the transformation takes too long to eventuate.

So they wander around the earth seeking peaceful places to exist and propagate the transformation intuitively or consciously knowing that the more people transform the easier it will be to find peaceful places to exist and further propagate peace.

Around 3500 years have elapsed since Melchizedek started this **Peace Propagation** process and the question is how many human beings in the planet possess those genes and epigenetically carry the information of Melchizedek. What kind of environment and experiences do they need to express those genes and retrieve the cognitive map that Melchizedek left in Abraham. How long would this collective transformation take under different scenarios of pockets of peaceful communities or regions in the planet?

All of these questions may be crucial to answer when it is understood that the present planetary crisis requires loving co-operation and housecleaning. A coherent community

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<sup>132</sup> Jones, Gareth; 2007 Bioethics - When the Challenges of Life Become Too Difficult. (Hindmarsh, SA: Australasian Theological Forum ATF Press).

<sup>133</sup> Priority must be placed in the attainment of Unity with The Value Giver and the continuous embodiment of Spiritual Values because this attitude enhances and betters the Mind and Spirit, whether it is for the purpose of scientific research, artistic expression or family and social interaction in general, leading to a peaceful coherent State of Being with the consequent effects of gene expression and modification for spirituality, peace and goodness in general. This is the foundation to prevent scientific manipulation for selfish and destructive purposes as well as unintentional harm that can be caused to other humans through ignorance and improvisation even with the best intentions.



will find creative avenues and harmonious co-operation as the foundation to find a sustainable future for the next generations. Our ancestors wrote about this and some of them spoke the words to ignite once more a global transformation.

Because I regard you as valued and honoured, and because I love you. For you I will give people, nations in exchange for your life. Don't be afraid, for I am with you. I will bring your descendants from the east, and I will gather you from the west; I will say to the north, 'Give them up!' and to the south, 'Don't hold them back!' Bring my sons from far away, and my daughters from the ends of the earth, everyone who bears my name, whom I created for my glory – I formed him, yes I made him.” (Yesha'Yahu, **ישעיהו**, 43:4)<sup>134</sup>

The time has come to call all the spiritual seed already grown into spiritual beings from the four corners of the earth within all peoples, to walk as ambassadors of peace and scientists may help to identify them in order to gather them and prescribe the environment and means for them to exist as a people, a Nation of Peace, a Nation of Ambassadors to fulfil this call.

A first model of this dynamical system encompasses different positive and negative feedback loops and delays, a system like that may oscillate, grow, decay, tend to an equilibrium or find a new plateau after a period of growth and the main state variables for this system so far can be the level of individual peace and coherence and the level of community peace and coherence.<sup>135</sup>

When traced the cognitive map of Melchizedek in humanity leads to Abraham and Sarah whom Melchizedek blessed. When the possibility is considered that the descendants of Abraham, Sarah and Hagar may carry the pool of genes that in the right environment will express this cognitive map one of the questions which follows is whether this pool of genes can be traced to some humans or all humans. Consider what Steve Olson has to say in the book Mapping Human History - Discovering Our Past Through Our Genes:

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<sup>134</sup> Stern, David H., 1998 Complete Jewish Bible. (Jewish New Testament Publications Inc., [www.messianicjewish.net/jntp](http://www.messianicjewish.net/jntp)).

<sup>135</sup> As portrayed by Perlovsky in Interacting Cultures, section 8.5 of his paper “Neural Dynamics Logic of Consciousness: the Knowledge of Instinct”, (p.101). In, Neurodynamics of Cognition and Consciousness, Perlovsky and Kozma, Editors (Verlag Berlin Heidelberg: Springer, 2007).

The forces of genetic mixing are so powerful that everyone in the world has Jewish ancestors, though the amount of DNA from those ancestors in a given individual may be small. In fact, everyone on earth is by now a descendant of Abraham, Moses, and Aaron – if indeed they existed. (2002, p. 114)

The amount of Abrahamic DNA in each human may determine the propensity for the map of Melchizedek and when taken together within an environment of human beings operating in that cognitive map of reality then those genes may find the appropriate soil for expression. The understanding of these dynamics can be dealt with neuro-genetic modeling. The stability of this kind of cognitive map can also be seen as a protective mechanism for the cognitive abilities related to the expression of Spiritual Values. The proper environment for the expression of these genes is a family or community who is already living in The Spirit of Love, the Holy Spirit, a family or community that has attained that state already.

Consider the words of Yochanan as written in the new covenant, in the Torah and Kabbalah of Yeshua Ben Yosef, when he prays for his disciples:

Holy Father, protect them by the power of your name-the name you gave me-so that they may be one as we are one. (Yochanan, **יוהנן**, 17:11)<sup>136</sup>

The Brain of Melchizedek can be a reality for all those ones who receive the blessings and the promise of Peace and embody this neural-genetic possibility. New scientific research many shed light in the fulfilment of this possibility and the gathering of the seed of Peace as One Family, as One Planetary Family of Love, Light and Truth.

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<sup>136</sup> Holy Bible-New International Version, (1973, p. 1341). (London: Hodder & Stoughton).